MD / DNB

# EMERGENCY MEDICINE

## QUESTION BANK

DNB (NBEMS) · KUHS · Dr. MGR Medical University

Chapter-wise · Topic-wise Previous-Year Questions

Theory Papers I – IV · 2015 – 2025



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By

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# MD / DNB EMERGENCY MEDICINE

## (Final theory examinations · Papers I, II, III and IV)

## Chapter-wise, Topic-wise Previous-Year Question Bank

DNB (NBEMS) · KUHS · Dr. MGR Medical University · 2015 – 2025

**23 chapters · 99 topics · 1396 questions from 140 papers · 1647 entries after splitting and merging repeats**

*Compiled from 76 DNB Emergency Medicine final theory papers of the National Board of Examinations in Medical Sciences (December 2016 – December 2025), 52 MD Emergency Medicine papers of the Kerala University of Health Sciences (June 2015 – November 2025) and 12 MD Emergency Medicine papers of The Tamil Nadu Dr. M.G.R. Medical University (July 2023 – October 2025)*

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# Preface

Dear students,

Every examination has a memory. In the DNB and MD Emergency Medicine theory papers, the same emergencies, the same procedures and very often the same questions return year after year, because they are the patients who will come through your door on every shift. This question bank was put together to help you see that memory clearly.

Every question set in the DNB Emergency Medicine final theory examinations of the National Board, and in the MD Emergency Medicine papers of the Kerala University of Health Sciences and The Tamil Nadu Dr. M.G.R. Medical University, from 2015 to 2025, has been collected here, arranged chapter by chapter and topic by topic, and tagged with the examination in which it appeared. Repeated questions are marked so that you can see at a glance which topics the examiners value most.

Use this book actively. Start each chapter with its most-asked topics. Read the topic from your textbook and guidelines, then come back and write the answers to the previous questions in your own words, within the eighteen minutes or so you will have for each ten-mark question in the examination hall. Practise the case-based questions the way you would run a resuscitation: assessment, stabilisation, investigations and disposition, in that order. Draw the diagrams, algorithms and ultrasound views until you can draw them from memory.

A question bank is not a substitute for shifts in the emergency department or for a good textbook. It is a map. It shows you where the roads are, how often each road is travelled, and which ones you must know well before you set out. Combined with regular bedside work and honest revision, it will help you walk into the examination with confidence.

I wish every one of you the very best for your examinations and for the years of emergency practice that lie ahead. Work steadily, stay curious and keep the patient at the centre of everything you learn.

*With best wishes,*



**Dr. Gireesh Kumar K.P.**
Kochi, October 2026

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## How to use this question bank

**Coverage.** Every question from 140 final theory papers (Papers I–IV): 76 DNB papers (Dec 2016 – Dec 2025), 52 KUHS MD papers (Jun 2015 – Nov 2025) and 12 Dr. MGR University MD papers (Jul 2023 – Oct 2025).

**Organisation.** Questions are grouped into 23 chapters and 99 topics. A DNB question whose parts cover different subjects (e.g. heat stroke + oleander poisoning) is split, and each part is filed under its own topic with the original part letters and marks. Within a topic, essays come first, then repeated questions, then the rest, newest first.

**Source tags.** Each question ends with its source, sitting and paper, e.g. "DNB Jun 2025 P-III", "KUHS Nov 2025 P-I" or "TNMGR Oct 2025 P-IV". Marks for each part are shown in grey brackets, e.g. [5].

**Repeats = high-yield.** A question set in more than one paper is listed once with all its appearances and a count in magenta, e.g. [2×]. Each topic heading shows how many papers asked it, and the list at the top of each chapter shows the most-asked topics — revise these first.

**Paper themes.** DNB: Paper I basic sciences and resuscitation, Paper II trauma and surgical specialties, Paper III medical emergencies and toxicology, Paper IV paediatrics, research and recent advances. KUHS and Dr. MGR papers follow a similar four-paper plan; the Appendix lists every paper.

**Note.** The papers were taken from the official websites and converted to text (the scanned December 2019 DNB papers were transcribed by hand). Broken words and page headers have been removed; the examiners' wording is otherwise kept, including spellings as printed. Check against the original paper if a word looks odd.

## Contents and question distribution


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| 23. | Research, Ethics, Medicolegal and ED Administration | 3 | 58 | 26 |
| | **TOTAL** | **99** | **1647** | **140** |
| *Appendix — Papers covered (140 papers)* | | | | |


*"Questions" counts entries after splitting mixed questions and merging repeats; "Papers asking" counts papers with at least one question in the chapter.*



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# 1. Resuscitation and Cardiac Arrest (37 questions)

## ★ Most-asked topics in this chapter

- CPR physiology, devices, ECPR and recent advances — ***asked in 14 papers***
- Post-cardiac arrest care and targeted temperature management — ***asked in 10 papers***
- BLS, ACLS and cardiac arrest algorithms — ***asked in 9 papers***

## 1.1 BLS, ACLS and cardiac arrest algorithms *(9 papers)*

1. **a)** Discuss management of patient of cardiac arrest with ventricular fibrillation during cardiac resuscitation. [5] — *DNB Jun 2025 P-IV*
2. **a)** Discuss management algorithm of Pulseless Electrical Activity (PEA) in cardiac arrest resuscitation. [5] — *DNB Jun 2025 P-I*
3. **b)** Discuss management of patient of cardiac arrest with pulseless electrical activity PEA rhythm during cardiac resuscitation. [5] — *DNB Oct 2023 P-IV*
4. Discuss pharmacology of ACLS drugs. — *KUHS May 2021 P-I*
5. **b)** How will you resuscitate a 26-weeks pregnant woman who is in cardiac arrest? [5] — *DNB Jun 2019 P-I*
6. **a)** Recent/last updates in Basic Life Support and Advanced Cardiac Life Support guidelines. [5] — *DNB Dec 2018 P-IV*
7. **b)** Role of vasopressin in adult CPR. [2] — *DNB Jun 2017 P-IV*
8. **a)** Mention changes in the 2015 AHA guidelines from 2010 guidelines for CPR in an adult with cardiac arrest. [4] **b)** What are H's and T's? [3] **c)** What is high quality CPR? [3] — *DNB Dec 2016 P-IV*
9. Pharmacology of drugs used in cardiac arrest — *KUHS Jun 2015 P-I*

## 1.2 CPR physiology, devices, ECPR and recent advances *(14 papers)*

1. **a)** Outline the principles of ECPR in emergency settings. [5] **b)** Discuss indications and contraindications for ECPR. [5] — *DNB Dec 2025 P-IV*
2. **b)** Summarize recent evidence / updates in ACLS. [5] — *DNB Dec 2025 P-IV*
3. **a)** Different types of ECMO. [4] **b)** Role of ECMO in emergency department. [6] — *DNB Oct 2024 P-IV*
4. **a)** Double sequential external defibrillation and its potential utility. [4] **b)** Methods to reduce peri-shock pause during CPR. [3] — *DNB Oct 2024 P-IV*
5. **b)** Newer defibrillation techniques in refractory ventricular fibrillation. [4] **c)** Extracorporeal CPR in refractory out-of-hospital cardiac arrest. [3] — *DNB May 2024 P-IV*
6. **a)** Describe the causes and methods to reduce peri-shock pause. [5] — *DNB May 2024 P-IV*
7. **a)** Discuss physiologic monitoring during cardiopulmonary resuscitation. [2] **b)** List steps of high-quality cardiopulmonary resuscitation. [3] b) How will you assess and manage an adult patient with bradycardia? [5] — *DNB Dec 2022 P-IV*
8. Discuss advantages and disadvantages of automated CPR devices and their complications. — *KUHS May 2022 P-IV*
9. **b)** ECMO unit in ER. [5] — *DNB Dec 2021 P-IV*
10. **a)** Role of automated chest compressor device in ED. [5] — *DNB Dec 2021 P-IV*
11. **a)** Mechanisms of blood flow during CPR. [3] — *DNB Dec 2019 P-I*
12. **a)** Recent advances in cardio-pulmonary resuscitation. [5] — *DNB Dec 2019 P-IV*
13. **b)** Use of ECMO in ED. [5] — *DNB Jun 2019 P-IV*
14. ECMO — *KUHS Apr 2018 P-II*
15. **a)** Discuss briefly about mechanical CPR (Cardiopulmonary resuscitation) devices. [2] **b)** What is impedance threshold device in CPR? [2] **c)** Discuss the techniques used in extracorporeal


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cardiopulmonary resuscitation [2] **d)** What do you understand by CPR feedback devices? [2] **e)** What are the recommendations about use of feedback devices during CPR? [2] — *DNB Dec 2017 P-IV*

16. **c)** What is the utility of end-tidal CO 2 during cardio-pulmonary resuscitation? [3] — *DNB Dec 2016 P-I*
17. Chest compression fraction and its importance in effective CPR — *KUHS Jun 2016 P-I*
18. **[7 marks]** Role of automated chest compression devices in ED. — *TNMGR Dec 2024 P-IV*

## 1.3 Post-cardiac arrest care and targeted temperature management *(10 papers)*

1. **a)** Discuss about post-cardiac arrest syndrome. [5] — *DNB May 2024 P-IV*
2. Targeted temperature management — *KUHS May 2022 P-I*
3. **b)** Evidence from hypothermia trials after cardiac arrest. [5] — *DNB Dec 2021 P-IV*
4. **c)** Targetted temperature management in the Emergency Department. [3] — *DNB Jun 2021 P-I*
5. Brain res us c itation — *KUHS May 2021 P-III*
6. **b)** Neuroprognostication after cardiac arrest in adults. [4] — *DNB Dec 2020 P-IV*
7. **c)** Therapeutic hypothermia. [4] — *DNB Dec 2019 P-I*
8. **c)** Role of coronary angiography in an adult in post-cardiac arrest phase. [3] — *DNB Jun 2017 P-IV*
9. **a)** What is targeted temperature management (TTM)? [3] **b)** Methods of lowering temperature in the post-Return of spontaneous circulation (ROSC) patient. [4] **c)** Mention trials done on TTM. [3] — *DNB Dec 2016 P-IV*
10. **[7 marks]** Trials on Targeted Temperature Management. — *TNMGR Dec 2024 P-IV*

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# 2. Airway Management and Respiratory Support (73 questions)

## ★ Most-asked topics in this chapter

- Difficult and failed airway, surgical airway — ***asked in 21 papers***
- Mechanical ventilation — ***asked in 17 papers***
- Rapid sequence intubation and induction/paralytic drugs — ***asked in 14 papers***
- Oxygen therapy, HFNC and non-invasive ventilation — ***asked in 14 papers***
- Airway anatomy and assessment — ***asked in 8 papers***

## 2.1 Rapid sequence intubation and induction/paralytic drugs *(14 papers)*

1. **a)** Delayed sequence intubation. [4] — ***DNB Oct 2024 P-I · KUHS Oct 2018 P-IV [2×]***
2. **b)** Rapid sequence intubation. [5] — ***DNB Oct 2023 P-I · KUHS May 2022 P-II [2×]***
3. **b)** Describe the role of etomidate in RSI and its contraindications. [5] — *DNB Dec 2025 P-I*
4. **b)** Describe the mechanism of action, contraindications and complications of succinylcholine. [5] — *DNB Jun 2025 P-I*
5. Describe rapid sequence intubation and pharmacology of all the drugs used in RSI. — *KUHS Jun 2024 P-I*
6. **a)** Describe rapid sequence intubation and mention key modification to the classic RSI based on recent evidence. [6] **b)** Discuss delayed sequence intubation. [2] **c)** How will you reduce chances of peri-intubation cardiac arrest in a patient who is in shock? [2] — *DNB Dec 2022 P-IV*
7. A 56-year-old diabetic, hypertensive and with ischemic heart disease presents to ER with Type I respiratory failure, hypotension and severe acidosis. He has pneumonia and appears to be confused. You decide to intubate this sick acidotic patient. **a)** Salient features of int ubating the sick, acidotic patient in the ER. [6] **b)** Ketamine versus etomidate as indu ction agents in this patient. [4] — *DNB Dec 2020 P-IV*
8. **b)** Enumerate the steps of drug assisted intubation for trauma victim. [3] — *DNB Dec 2019 P-I*
9. **a)** Discuss various methods to confirm correct position of endotracheal tube. [5] — *DNB Jun 2019 P-I*
10. **b)** Enumerate its immediate complications. [2] **c)** Long term complications of endotracheal intubation. [2] — *DNB Dec 2018 P-I*
11. **a)** Enumerate medicines used in Rapid sequence intubation (also known as drug assisted intubation). [2] **b)** Write about pharmacology of importance of medicines used in rapid sequence intubation as per recent updates. [8] — *DNB Dec 2018 P-IV*
12. **a)** Rapid Sequence Intubation (RSI). [4] **b)** Preferred induction agents in RSI. [4] **c)** Contraindications for using succinylcholine in RSI. [2] — *DNB Jun 2017 P-IV*

## 2.2 Difficult and failed airway, surgical airway *(21 papers)*

1. How do you assess the airway before intubation. How will you manage a difficult intubation — *KUHS Nov 2025 P-III*
2. **b)** Surgical cricothyroidotomy. [5] — *DNB Jun 2025 P-I*
3. **a)** Discuss failed intubation drill in pediatric age group compared to adults. [5] — *DNB Jun 2025 P-I*
4. **b)** Describe various supraglottic airway devices with their indications. [4] — *DNB May 2024 P-I*
5. **b)** Needle cricothyrotomy and transtracheal jet insufflation. [5] — *DNB Oct 2023 P-IV*
6. **b)** Steps of surgical cricothyroidotomy. [5] — *DNB Apr 2023 P-II*
7. **a)** Difficult airway assessment in ED. [4] **b)** Steps of tracheal intubation and management of failed intubation. [6] — *DNB Apr 2023 P-I*
8. Supraglottic airway devices — *KUHS May 2022 P-I*
9. **a)** Management of physiologically difficult airway in ED. [5] **b)** Discuss the role of newer airway aides by emergency physician. [5] — *DNB Dec 2021 P-IV*


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10. Methods to evaluate the airway and role of Supraglottic Airway Devices (SAD). — *KUHS May 2021 P-I*
11. Recent advances in management of definite airway. — *KUHS May 2021 P-IV*
12. **b)** Airway management in COVID-19. — *DNB Dec 2020 P-IV*
13. **a)** Airway ultrasound in Emergency department. [4] — *DNB Jun 2020 P-IV*
14. **a)** Recent advances in equipment for emergency airway management. [4] **b)** Describe failed airway algorithm in emergency. [4] **c)** Pretreatment during DAI. [2] — *DNB Dec 2019 P-IV*
15. Evaluation of difficult airway. — *KUHS Apr 2019 P-I*
16. **a)** Recent advances in management of a difficult airway. [6] **b)** Enumerate methods of percutaneous tracheostomy. [4] — *DNB Dec 2018 P-IV*
17. Emergency cricothyroidotomy — *KUHS Oct 2018 P-III*
18. Combi tube — *KUHS Apr 2018 P-I*
19. Needle cricothyroidotomy — *KUHS Apr 2018 P-III*
20. **a)** How do you predict difficult airway by LEMON and MOANS assessment methods? **b)** Rapid sequence intubation in unstable cervical spine. **c)** Supraglottic airways. — *DNB Dec 2017 P-I*
21. **[7 marks]** Difficult airway and Video laryngoscopy. — *TNMGR Oct 2025 P-IV*
22. **[7 marks]** Emergency tracheostomy management. — *TNMGR Dec 2024 P-III*

## 2.3 Airway anatomy and assessment *(8 papers)*

1. **Essay [20 marks]** Describe anatomy of larynx, relevant for endotracheal intubation. Enumerate the difference of adult and paediatric airway. Narrate the recent difficult airway management protocol. Describe supraglottic airway devices. Add a note on surgical airways with special note on percutaneous tracheostomy. — *KUHS Jun 2020 P-I*
2. **a)** Describe anatomy of larynx as relevant for endotracheal intubation. Draw appropriate diagram(s). [5] **b)** Describe the differences in laryngeal anatomy in adults and paediatric patients. [5] — *DNB Oct 2024 P-I*
3. **a)** Describe the anatomical differences between adult and paediatric airway with its clinical implications. [6] — *DNB May 2024 P-I*
4. **a)** LEMON airway assessment method. [5] — *DNB Oct 2023 P-I*
5. **a)** Physical status classification system of assessment of airway by American Society of Anesthesiologists (ASH). [5] **b)** Discuss LEMON mnemonic for evaluation of difficult direct laryngoscopy. [5] — *DNB Dec 2022 P-I*
6. **a)** Anatomical characteristics of pediatric airway. [3] **b)** How does pediatric airway differ from adult airway? [4] **c)** Steps of management of difficult pediatric airway. [3] — *DNB Dec 2020 P-I*
7. **a)** Write about the anatomical differences in adult and child airway related to endotracheal intubation. [6] — *DNB Dec 2018 P-I*
8. Airway anatomy in normal adults and its variation in pregnancy, paediatrics — *KUHS Jun 2016 P-I*

## 2.4 Oxygen therapy, HFNC and non-invasive ventilation *(14 papers)*

1. **a)** Discuss the physiology, application and complications of non invasive ventilation in the emergency department. [5] — *DNB Dec 2025 P-I*
2. **a)** Describe various oxygen delivery devices used in the Emergency department. [7] **b)** Describe oxygen toxicity which can occur in various age groups. [3] — *DNB Oct 2024 P-I*
3. What are indications of NIV. Elaborate the steps involved in rapid sequence intubation — *KUHS Jun 2024 P-III*
4. **b)** High Flow Oxygen therapy in ED. [5] — *DNB Dec 2021 P-III*
5. **b)** Describe rationale, indications and complications of various methods of oxygen delivery. [6] — *DNB Jun 2021 P-I*


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6. Role of non-invasive ventilation in ED, indications, setting up, monitoring, draw backs of non-invasive ventilation in ED. — *KUHS May 2021 P-II*

7. **a)** FLORALI trial. — *DNB Dec 2020 P-IV*

8. Indications, modes and monitoring of non-invasive ventilation in emergency medicine department. — *KUHS Jun 2020 P-II*

9. **c)** High flow oxygen therapy – indications, contraindications and proven benefits. [3] — *DNB Dec 2019 P-I*

10. **b)** Non-invasive ventilation in ED – weaning protocol. [3] — *DNB Dec 2019 P-III*

11. **a)** Write about medical oxygen therapy in ED. [4] **d)** Enumerate the pre-requisites for putting patients on noninvasive ventilalory treatment. [3] — *DNB Dec 2018 P-I*

12. Non-invasive ventilation — *KUHS Oct 2018 P-II*

13. **c)** Modes of non-invasive ventilation, indications and contra- indications. [5] — *DNB Dec 2016 P-III*

14. **[7 marks]** High-flow oxygen for acute respiratory failure due to COVID-19 — *TNMGR Jul 2023 P-IV*

## 2.5 Mechanical ventilation *(17 papers)*

1. **Essay [20 marks]** Describe indication of mechanical ventilation in Emergency medicine department. What are the commonly used modes of ventilation in the first 24 hrs of i nitiation of mechanical ventilation. What are the haemodynamic changes and respiratory changes that take place in a patient on IPPV with PEEP. How do you initiate mechanical ventilation in a polytrauma patient with GCS 6. — *KUHS May 2021 P-I*

2. What is capnography. Discuss the importance of measurement of end tidal carbon dioxide in ED. — *KUHS Nov 2025 P-III*

3. **b)** Ventilatory waveforms and their clinical importance. [5] — *DNB Jun 2025 P-IV*

4. **a)** Indications of end-tidal CO 2 measurement. [3] **b)** Methods for end-tidal CO 2 measurement. [2] **c)** Normal phases of graphs of capnography. [2] **d)** Changes in graph of capnography in various pathological conditions. [3] — *DNB Oct 2024 P-IV*

5. **b)** Discuss clinical applications and limitation of end tidal capnogram. [5] — *DNB Oct 2023 P-I*

6. Describe a normal capnogram. Discuss the common abnormalities of capnogram. What are the clinical uses. — *KUHS Jul 2023 P-I*

7. How do you decide a patient on ventilator support is ready for extubation in the ICU. What are the reversible causes to avoid failure to wean a patient from ventilator. — *KUHS Jul 2023 P-II*

8. **c)** End tidal capnogram and its utility in the emergency department. [5] — *DNB Dec 2022 P-I*

9. **b)** Initial ventilator settings for metabolic acidosis. [5] — *DNB Jun 2022 P-I*

10. Principles and modes of weaning a patient from ventilator — *KUHS May 2022 P-III*

11. **a)** Draw a diagram and describe the physiology of lung volumes and capacities. [4] **b)** Initial ventilator management in a patient with respiratory acidosis. [3] **c)** Initial ventilator management in a patient with metabolic acidosis. [3] — *DNB Jun 2020 P-I*

12. Newer modes of mechanical ventilation — *KUHS Jun 2020 P-IV*

13. **c)** Suggest, with justification, the initial ventilator settings for invasive mechanical ventilation for a COPD patient. [3] — *DNB Dec 2019 P-III*

14. **b)** Draw and label the normal capnogram. [2] **c)** Write on role of capnography variations in assessment of ventilator abnormalities. [3] — *DNB Jun 2019 P-I*

15. **a)** Non-invasive oxygen and carbon dioxide monitoring. [4] — *DNB Dec 2016 P-I*

16. Dynamic hyperinflation and adverse effect of auto PEEP. How to manage this in a patient on mechanical ventilation — *KUHS Jun 2016 P-I*

17. Principles and modes of weaning a patient from the ventilator — *KUHS Jun 2015 P-II*


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# 3. Shock, Sepsis and Fluid Therapy (46 questions)

## ★ Most-asked topics in this chapter

- Sepsis and septic shock — ***asked in 24 papers***
- Fluids, vasopressors and inotropes — ***asked in 12 papers***
- Shock – classification, pathophysiology and management — ***asked in 10 papers***

## 3.1 Shock – classification, pathophysiology and management *(10 papers)*

1. **a)** Explain the pathophysiology of shock at the cellular level. [5] — *DNB Dec 2025 P-I*
2. **a)** Classify and enumerate different types of shock. [3] **b)** Write briefly about neurogenic shock. [2] — *DNB Jun 2025 P-II*
3. Define shock. Discuss the management of haemorrhagic shock. Mention the tests of haemostasis. — *KUHS Jun 2024 P-I*
4. **b)** Classification of hemorrhagic shock in an adult patient. [5] — *DNB May 2024 P-II*
5. Discuss the ED management of: **a)** Distributive shock. [5] **b)** Cardiogenic shock. [5] — *DNB Apr 2023 P-III*
6. **b)** Classification and pathophysiology of hemorrhagic shock. [5] — *DNB Dec 2022 P-I*
7. **a)** Discuss the management of vasopressor resistant shock. [5] — *DNB Jun 2022 P-III*
8. **b)** Classification of shock in trauma. [5] — *DNB Dec 2021 P-II*
9. **a)** Pathophysiology of traumatic shock. [5] — *DNB Jun 2021 P-I*
10. **b)** Discuss the differences in planning resuscitation for cardiogenic, septic and obstructive shock in ED. [5] — *DNB Dec 2019 P-IV*

## 3.2 Sepsis and septic shock *(24 papers)*

1. **Essay [20 marks]** 60 years old gentleman was brought to emergency room with fever since 3 days, burning micturition since 1 week. On examination he is in altered sensorium with vitals of BP-130/90 mmHg, HR-140/min, RR-48/min, SPO2-84% in room air, Temp- 103° F.His Total Count was 18,000/cu.mm. Discuss in detail the management of this patient. — *KUHS Jun 2016 P-II*
2. Toxic shock syndrome — ***KUHS Oct 2018 P-II · KUHS Apr 2018 P-II [2×]***
3. **a)** Outline recent advances in sepsis biomarkers. [5] **b)** Discuss the role of procalcitonin and lactate in pediatric sepsis. [5] — *DNB Dec 2025 P-IV*
4. **b)** Diagnosis of sepsis in the emergency room. [5] — *DNB Jun 2025 P-I*
5. Prognostic scores for early stratification of septic patients in ED — *KUHS Jan 2025 P-II*
6. **b)** "PIRO" concept for staging of sepsis. [5] — *DNB Apr 2023 P-IV*
7. **a)** Differential diagnosis and management of toxic shock syndromes. [6] — *DNB Apr 2023 P-III*
8. **b)** Discuss Sepsis 3.0 guidelines for sepsis. [5] — *DNB Jun 2022 P-III*
9. Pathophysiology and diagnostic criteria of toxic shock syndrome — *KUHS May 2022 P-II*
10. **a)** Endocrine changes frequently seen in sepsis. [5] **b)** Diagnosis of sepsis in the emergency room. [5] — *DNB Dec 2021 P-I*
11. **b)** Inotropic support in patients with septic shock. [5] — *DNB Dec 2021 P-III*
12. Describe shock and explain pathophysiology of septic shock. — *KUHS May 2021 P-I*
13. **b)** Staphylococcal toxic shock syndrome. [5] — *DNB Jun 2020 P-III*
14. **a)** MEWS score. [4] **b)** Prehospital antibiotic therapy in suspected sepsis. [3] **c)** Vancomycin as an empiric treatment in sepsis. [3] — *DNB Jun 2020 P-IV*
15. **a)** Pathophysiology of sepsis and septic shock. [4] **b)** Various scoring systems for early identification of sepsis in emergency. [3] **c)** Pathway of lactate production and its significance for emergency physician. [3] — *DNB Dec 2019 P-I*


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16. Pathophysiology of septic shock. — *KUHS Apr 2019 P-I*

17. **a)** Define sepsis. [2] **b)** qSOFA score in ED. [2] **c)** Describe recent surviving sepsis guidelines including one hour and six hour bundles. [6] — *DNB Dec 2018 P-IV*

18. **a)** Revised diagnostic criteria for sepsis and septic shock. [3] **b)** qSOFA scoring of sepsis. [2] **c)** Recent Surviving Sepsis Bundles Guidelines [5] — *DNB Jun 2018 P-IV*

19. Novel therapies in sepsis syndromes — *KUHS Apr 2018 P-II*

20. Surviving Sepsis Campaign: International Guidelines for management of severe sepsis were revised in 2016. As per the guidelines, discuss the following: **a)** Initial resuscitation of septic shock [4] **b)** Use of antibiotics [3] **c)** Use of vasoactive medications. [3] — *DNB Jun 2017 P-IV*

21. Early goal directed therapy in sepsis syndromes — *KUHS May 2017 P-II*

22. **a)** Recent definitions for sepsis and septic shock. [2] **b)** Role of different vasopressors in septic shock. [4] **c)** What are the goals in first 6 hours of its management? [4] — *DNB Dec 2016 P-IV*

23. **a)** Pathogenesis and clinical features of staphylococcal toxic shock syndrome. **b)** Diagnostic criteria of staphylococcal toxic shock syndrome. — *DNB Dec 2016 P-III*

24. Sepsis markers — *KUHS Jun 2016 P-IV*

## 3.3 Fluids, vasopressors and inotropes *(12 papers)*

1. **Essay [20 marks]** Describe cardiac cycle. Describe basic haemodynamic monitoring. Add a note on advanced haemodynamic monitoring. Describe RUSH protocol and its relevance in EMD. — *KUHS Jun 2024 P-I*

2. **a)** Outline the principles of fluid compartments and distribution of crystalloids with the help of a depiction. [5] — *DNB Dec 2025 P-I*

3. Describe in detail about non-invasive hemodynamic monitoring in critically ill patients in ICU. Describe in detail about RUSH protocol. — *KUHS Jun 2024 P-II*

4. **b)** Classification of vasopressors and ionotropic agents. [6] — *DNB Dec 2022 P-I*

5. **b)** Discuss push dose pressors. [5] — *DNB Jun 2022 P-IV*

6. **a)** Colloids versus crystalloids in the management of hypovolemic shock. [3] — *DNB Jun 2021 P-I*

7. Haemodynamic monitoring in ED. — *KUHS May 2021 P-II*

8. ScVO 2 — *KUHS Jun 2020 P-IV*

9. Pharmacology and indication of vasopressor & inotropes. — *KUHS Apr 2019 P-I*

10. Plasma volume e xpanders. — *KUHS Apr 2019 P-II*

11. **b)** Basic hemodynamic monitoring in a patient admitted in ICU. [6] — *DNB Dec 2018 P-I*

12. **a)** Non-invasive arterial blood pressure monitoring [3] **b)** Invasive arterial blood pressure monitoring [4] **c)** Non-invasive cardiac output monitoring [3] — *DNB Dec 2017 P-I*

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# 4. Cardiovascular Emergencies (90 questions)

## ★ Most-asked topics in this chapter

- Arrhythmias, pacing and cardioversion — ***asked in 28 papers***
- Chest pain and acute coronary syndrome — ***asked in 22 papers***
- Acute heart failure and cardiogenic shock — ***asked in 9 papers***
- Pulmonary embolism and venous thromboembolism — ***asked in 8 papers***
- Pericardial, myocardial and valvular disease — ***asked in 8 papers***
- Hypertensive emergencies, aortic and vascular emergencies — ***asked in 6 papers***
- Syncope — ***asked in 5 papers***

## 4.1 Chest pain and acute coronary syndrome *(22 papers)*

**1.** **Essay [20 marks]** A 60 years old patient has presented to you in ED with acute onset chest pain one hour back. You are in charge there. a) How detail history taking will help you in arriving at probable diagnosis. b) Describe in detail about the investigations you will send c) How will you manage such cases, where your set up is not capable for primary angioplasty. d) Write about indications and contraindications of thrombolytic therapy e) Enumerate immediate and long term complications of acute myocardial infarction. — *KUHS Jun 2024 P-II*

**2.** **Essay [20 marks]** Approach to non-traumatic chest pain in ED. — *KUHS May 2021 P-II*

**3.** **b)** GRACE guidelines for low risk chest pain. [5] — ***TNMGR Dec 2024 P-IV · DNB Dec 2021 P-IV [2×]***

**4.** **a)** Discuss the role of biomarkers in acute myocardial infarction. [5] **b)** Compare the scores used in emergency department for prognosticating patients with Non ST elevation MI. [5] — *DNB Dec 2025 P-I*

**5.** **a)** Discuss the role of high-sensitivity troponin in chest pain evaluation. [5] **b)** Describe the HEART score and its application. [5] — *DNB Dec 2025 P-IV*

**6.** Discuss the recommended drugs used in Acute ST elevation myocardial infarction. Mention briefly the contraindications to fibrinolytic therapy. — *KUHS Nov 2025 P-I*

**7.** **b)** Contraindications to fibrinolytic therapy in ST-segment elevation myocardial infarction. [5] — *DNB Jun 2025 P-III*

**8.** **a)** Role of 2D echocardiography in myocardial infarction. [5] — *DNB Jun 2025 P-III*

**9.** Define myocardial infarction. Describe briefly anatomical distribution, pathological finding and diagnostic test of a myocardial infarction. — *KUHS Jan 2025 P-I*

**10.** Implications of history, X ray chest, ECGs, cardiac biomarkers in evaluation of acute chest pain. — *KUHS Jun 2024 P-I*

**11.** A middle aged male is brought to the ER with acute chest pain since last 30 minutes. He is sweating and has vomited once.The patient has received a PCI to RCA a week back. **a)** Enumerate clinical possibilities for his deterioration. [2] **b)** How will you evaluate him? [3] **c)** Treatment of acute myocardial infarction in ED. [5] — *DNB Apr 2023 P-III*

**12.** A 26-year-old patient presents to emergency department with acute onset chest pain. His pulse rate is 100/minute, BP 130/90 mmHg and oxygen saturation is 95%. His initial ECG is normal: **a)** How will you assess and manage the patient? [5] **b)** Describe various risk stratification scores you will use in this case. [5] — *DNB Jun 2022 P-III*

**13.** **b)** Role of biomarkers in cardiac ischemia. [5] — *DNB Dec 2021 P-III*

**14.** **b)** Radiology in acute coronary syndrome. [5] — *DNB Dec 2021 P-IV*

**15.** **a)** Describe various clinical decision making rules for management and disposition of low-risk chest pain. [4] — *DNB Dec 2019 P-I*

**16.** **a)** Compare the various scoring systems to predict outcome in acute onset chest pain. [3] **b)** Describe ECG findings requiring immediate coronary intervention. Enumerate other causes of ST


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elevations. [2] **c)** Utility of cardiac biomarkers in emergency department. [3] **d)** Classify acute myocardial infarction. [2] — *DNB Dec 2019 P-III*

17. **a)** High sensitivity troponin. [4] **b)** HEART pathway. [3] — *DNB Jun 2019 P-IV*
18. Enumerate causes of non-traumatic chest pain in a 50 years old adult and its management. — *KUHS Apr 2019 P-II*
19. **a)** Describe cardiac biomarkers of importance in ED. [4] — *DNB Dec 2018 P-I*
20. Serum markers of myocardial injury — *KUHS Apr 2018 P-I*
21. A 68 year old male presents to ED with chest pain. His ECG shows ST- segment elevation in V2-V6. **a)** Enumerate causes of ST segment elevation [2] **b)** How will you manage this patient in the ED? [2] **c)** Discuss HEART score and TIMI score in a patient with chest pain. [3] **d)** How will you decide between percutaneous coronary intervention and fibrinolytic therapy? [3] — *DNB Dec 2017 P-III*
22. **a)** Enumerate causes of acute chest pain in the emergency. [3] **b)** Role of biomarkers in evaluation of acute chest pain. [3] — *DNB Jun 2017 P-III*
23. **a)** Define and classify acute coronary syndrome. [2] **b)** Use of cardiac enzymes in diagnosis of acute myocardial infarction. [3] **c)** TIMI Risk Scoring. [2] **d)** Percutaneous coronary intervention vs thrombolysis in ST elevation MI. [3] — *DNB Dec 2016 P-III*

## 4.2 Arrhythmias, pacing and cardioversion *(28 papers)*

1. **a)** CHA 2 DS 2 -VASc score. [5] — ***DNB Jun 2025 P-IV · DNB Jun 2019 P-IV [2×]***
2. **b)** Describe the complications of permanent pacemaker. [5] — *DNB Dec 2025 P-I*
3. **a)** Discuss equipment needed, technique and outcomes assessment of transcutaneous pacing. [5] **b)** Implantable cardioverter-defibrillators. [5] — *DNB Jun 2025 P-IV*
4. **a)** Discuss ECG features of atrial fibrillation and atrial flutter. [3] **b)** Describe emergency room management of ventricular tachycardia and fibrillation. [7] — *DNB Jun 2025 P-I*
5. Describe American Heart Association (AHA) algorithm for tachycardia management in acute care setting. — *KUHS Jun 2024 P-I*
6. **a)** Describe the recent advances in management of electrical storm. [6] — *DNB May 2024 P-IV*
7. **a)** Management of paroxysmal supraventricular tachycardia. [5] — *DNB Oct 2023 P-IV*
8. **b)** Mention indications of implantable cardioverter defibrillator and mention components and newer technique of insertion. [5] — *DNB Oct 2023 P-I*
9. Emergency cardiac pacing — *KUHS Jul 2023 P-I*
10. **a)** How will you stabilize a patient with paraoxysmal atrial fibrillation? [5] — *DNB Apr 2023 P-III*
11. **a)** Physiology of cardiac rhythm generation. [4] — *DNB Apr 2023 P-I*
12. **a)** Managment of supraventricular arrhythmias. [5] — *DNB Dec 2021 P-III*
13. A 35-year-old, known case of rheumatic heart disease, presents to the emergency department with profuse, watery diarrhea, dyspnea and palpitation for one day. Cardiac monitor reveals atrial fibrillation with a heart rate of 180/minute. The blood pressure is 80/50 mmHg. **a)** Discuss the clinical assessment and management in this case? [7] **b)** Discuss the role of point of care ultrasound in this case? [3] — *DNB Jun 2021 P-III*
14. **a)** Draw normal conduction system of heart. [2] **b)** Describe cardiac cellular electrophysiology. [4] **c)** Discuss various mechanism of dysarrhythmia. [4] — *DNB Jun 2021 P-I*
15. Anatomy of conduction system of heart and explain various blocks & ECG features. — *KUHS May 2021 P-I*
16. A 70-year-old male comes to ER with history of giddiness and nausea since morning. He has a pulse rate of 48/min. His ECG shows irregular pacing. **a)** Indications for permanent pacing in adults. [2] **b)** Five letter Pacemaker Code. [2] **c)** Causes of pacemaker malfunction. [2] **d)** Pacemaker syndrome. [2] **e)** Advanced Cardiac Life Support Interventi ons in patient with pacemaker. [2] — *DNB Dec 2020 P-III*


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17. **a)** Approach to wide-complex tachycardia. [5] — *DNB Jun 2020 P-III*
18. Describe American Heart Association (AHA) algorithm for bradycardia management in acute care setting. — *KUHS Jun 2020 P-I*
19. **d)** Approach to a patient with narrow-complex tachycardia. [3] — *DNB Dec 2019 P-III*
20. **a)** Draw a labelled diagram of cardiac conduction system. [2] **b)** Classify cardiac arrhythmias. [2] **c)** Classify anti-arrhythmic agents. [2] **d)** Discuss various mechanisms of cardiac arrhythmias. [4] — *DNB Jun 2019 P-I*
21. Torsedes pointis — *KUHS Apr 2018 P-II*
22. Defibrillation and cardio version — *KUHS May 2017 P-I*
23. **a)** Illustrate with the help of a labelled diagram the conducting system of the heart. [3] **b)** What are the different mechanisms of tacharrhythmias? [3] **c)** Classification of anti-arrhythmic agents. [4] — *DNB Dec 2016 P-I*
24. Recognition and management of bradyarrythmia — *KUHS Jun 2016 P-I*
25. Management of wide QRS tachyarrhythmia in emergency room — *KUHS Jun 2016 P-II*
26. Torsades De Pointes — *KUHS Jun 2015 P-I*
27. **[7 marks]** Wide complex tachyarrhythmias. — *TNMGR Dec 2024 P-II*
28. **[7 marks]** Paroxysmal supraventricular tachycardia. — *TNMGR Jul 2023 P-II*

## 4.3 Acute heart failure and cardiogenic shock *(9 papers)*

1. **Essay [20 marks]** Discuss the pathophysiology, clinical features, diagnosis and treatment of cardiogenic shock. — *KUHS Oct 2018 P-II*
2. **b)** Evaluation and treatment to patient with cardiogenic shock. [5] — *DNB Jun 2025 P-IV*
3. **a)** Define acute heart failure. [2] **b)** How do you classify acute heart failure? [3] **c)** Describe the pathophysiology of acute heart failure. [5] — *DNB May 2024 P-I*
4. **b)** Diagnosis and management of hypertensive acute heart failure. [5] — *DNB Oct 2023 P-III*
5. **b)** Mention the classification of heart failure alongwith the common presentation symptoms and physical findings. [5] — *DNB Apr 2023 P-III*
6. **a)** Pathogenesis and management of cardiogenic shock. [5] — *DNB Dec 2022 P-III*
7. **a)** Discuss the cause and management of sympathetic crashing acute pulmonary edema. [5] — *DNB Jun 2022 P-III*
8. **a)** Pathophysiology of heart failure. [4] **b)** Biomarkers in diagnosis of heart failure. [2] **c)** Management of sympathetic crashing acute pulmonary edema. [4] — *DNB Jun 2020 P-I*
9. **a)** What are LVADs (Left Ventricular Assist Devices)? [2] **b)** What are the indications of LVADs? [2] **c)** How do LVADs function? [3] **d)** Medical complications of LVADs. [3] — *DNB Jun 2019 P-IV*

## 4.4 Hypertensive emergencies, aortic and vascular emergencies *(6 papers)*

1. **Long essay [15 marks]** Aortic dissection – Causes, Clinical features, Investigations and Management. — *TNMGR Oct 2025 P-III*
2. **a)** Clinical features in a patient with acute aortic dissection. [4] **b)** Aortic dissection detection risk score. [3] **c)** Medical management of acute aortic dissection. [3] — *DNB Oct 2024 P-III*
3. **a)** Describe the drugs used in individual hypertensive emergencies. [5] **b)** Describe advantages and disadvantages of drugs used in hypertensive emergencies. [5] — *DNB Oct 2024 P-I*
4. **b)** Treating malignant hypertension in ED. [5] — *DNB Dec 2021 P-III*
5. A 46-year-old male presents to the ER with uneasiness, severe headache and a blood pressure of 230/128 mmHg. **a)** Define hypertension and hypertensive emergency. [2] **b)** Treatment (including therapy goals) of hypertensive emergency in acute ischemic stroke for thrombolysis. [2] **c)** Treatment (including therapy goals) of hypertensive emergency in aortic dissection. [2] **d)** Treatment (including therapy goals) of hypertensive emer gency in intracerebral bleed. [2] **e)**


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Treatment (including therapy goals) of hypertensive emergency in eclampsia/pre-eclamp sia. [2] — *DNB Dec 2020 P-III*

6. **c)** ADvISED trial in aortic dissection. [3] — *DNB Jun 2019 P-IV*

## 4.5 Pulmonary embolism and venous thromboembolism *(8 papers)*

1. **Long essay [15 marks]** Pulmonary embolism – Pathophysiology, laboratory investigation, scoring systems and management. — *TNMGR Oct 2025 P-II*
2. **a)** Describe Wells and PERC scoring systems used in evaluating a patient with suspected pulmonary thromboembolism. [6] **b)** Discuss management of a patient with pulmonary thromboembolism. [4] — *DNB May 2024 P-III*
3. A 38-year-old woman presents to the ED with chest pain and mild shortness of breath, that began night before. She was able to sleep without difficulty, but awake in the morning with persistent pain that worsens with a deep breath. Upon walking upstairs, she had very short of breath, prompting her ED visit. On physical examination, she was noted to be tachycardic and have left calf pain. She has no past medical history, but has smoked half pack per day for 15 years and is on an oral contraceptives. **a)** Enumerate your line of assessment and investigations linked to the possible differential diagnosis. The interpretation of investigation needed to be mentioned. [6] **b)** How will you stabilize and treat this patient in ED? [4] — *DNB Oct 2023 P-III*
4. **b)** Oral anticoagulants and their role in acute DVT. [5] — *DNB Dec 2021 P-III*
5. A 42-year-old male presents to the ER with fever and shortness of breath since 2 days. He is tachypneic, hypoxic and hypotensive. **a)** Enumerate differential diagnosis of non-infectious causes of fever. [3] **b)** Echocardiography in pulmonary embolism. [3] **c)** Approach to a patient with suspected PE and with hemodynamic instability. [4] — *DNB Dec 2020 P-III*
6. **a)** Enumerate risk factor for venous thromboembolism. [2] **b)** Diagnostic testing for venous thromboembolism. [4] **c)** Scores for pulmonary embolism. [4] — *DNB Jun 2019 P-III*
7. **a)** Revised Geneva Score for diagnosis of pulmonary embolism. [4] **b)** Newer anticoagulants in treatment of VTE. [3] **c)** Treatment of subsegmental pulmonary embolism. [3] — *DNB Jun 2017 P-IV*
8. **c)** Management of "Saddle thrombus" in pulmonary artery. [4] — *DNB Jun 2017 P-III*

## 4.6 Pericardial, myocardial and valvular disease *(8 papers)*

1. **a)** Diagnosis and treatment of acute pericarditis. [5] — *DNB Jun 2025 P-III*
2. **a)** Discuss the clinical features, diagnosis and initial management of infective endocarditis. [6] — *DNB May 2024 P-III*
3. Toxic myocarditis — *KUHS Jul 2023 P-I*
4. **a)** Dukes criterion for diagnosis of infective endocarditis. [4] **b)** Management of infective endocarditis in an IV drug abuser. [6] — *DNB Apr 2023 P-IV*
5. **b)** Discuss etiology, clinical features, investigations and management of acute pericarditis. [5] — *DNB Dec 2022 P-III*
6. **a)** Discuss modified Jones criteria. [3] **b)** Discuss the pathophysiology of acute rheumatic fever. [3] **c)** Discuss management of a patient with acute rheumatic fever. [4] — *DNB Jun 2021 P-IV*
7. **b)** Endocarditis prophylaxis in ED. [5] — *DNB Jun 2020 P-III*
8. **[7 marks]** Takotsubo cardiomyopathy. — *TNMGR Jul 2023 P-II*

## 4.7 ECG interpretation *(3 papers)*

1. **a)** Discuss ECG findings & treatment for Brugada syndrome and early repolarization syndrome. [5] — *DNB Oct 2023 P-III*
2. **c)** Draw Einthoven's triangle. [2] — *DNB Dec 2019 P-I*
3. **a)** Conduction pathways of the heart [4] **b)** Normal ECG waves and intervals. [4] **c)** List the causes of QT interval prolongation [2] — *DNB Dec 2017 P-I*


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## 4.8 Syncope *(5 papers)*

1. **a)** Discuss causes of syncope. [5] **b)** Describe the ED approach to a patient presenting with syncope. [5] — *DNB Oct 2024 P-III*
2. Enumerate causes of syncope and outline the ED approach to the patient presenting with syncope. — *KUHS Jul 2023 P-III*
3. A 55-year-old presents to the emergency department with sudden onset of transient loss of consciousness. **a)** Discuss briefly the differential diagnosis in this case? [4] **b)** Discuss the key physical examination findings and diagnosic algorithm of syncope? [4] **c)** Discuss the ED disposition of a patient with syncope. [2] — *DNB Jun 2021 P-III*
4. **a)** What is syncope? [1] **b)** Causes of syncope. [3] **c)** ED evaluation of a patient with syncope. [4] **d)** How will you differentiate syncope from seizure? [2] — *DNB Jun 2019 P-III*
5. **d)** Management of orthostatic hypotension. [3] — *DNB Jun 2017 P-I*



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# 5. Respiratory Emergencies (49 questions)

## ★ Most-asked topics in this chapter

- Asthma and COPD — ***asked in 18 papers***
- ARDS and acute respiratory failure — ***asked in 12 papers***
- Pneumonia and respiratory infections — ***asked in 9 papers***
- Pneumothorax, pleural effusion and haemoptysis — ***asked in 4 papers***
- Approach to dyspnoea and other respiratory emergencies — ***asked in 4 papers***

## 5.1 Asthma and COPD *(18 papers)*

**1.** **Essay [20 marks]** Describe the pathophysiology and clinical features of acute severe asthma in adults, discuss the management of acute severe asthma in adult patient — *KUHS May 2022 P-III*

**2.** **Essay [20 marks]** 40 years old female, an asthmatic was brought to emergency room-with history of severe breathlessness, sudden in onset with excessive diaphoresis. Her BP was 100/70mmHg, HR-145/min, RR-48/min, SPO2-70% in Room Air, SPO2 improved to 94% with NRBM. Chest auscultation reveals bilateral extensive wheeze. Answer the following: **a)** Indications suggesting patient admission [3] **b)** Indications for non-invasive ventilation and when to switch over to invasive ventilation [4] **c)** Dynamic hyperinflation [3] **d)** Pre medications that can be used in this patient [2] **e)** Appropriate ventilator settings [3] **f)** Medical line of management [5] — *KUHS Oct 2018 P-III*

**3.** What is COPD. How will you assess and manage a patient in ED presenting with acute respiratory failure. — *KUHS Nov 2025 P-I*

**4.** **b)** Acute exacerbation of chronic obstructive pulmonary disease(COPD). [5] — *DNB Jun 2025 P-III*

**5.** **a)** Definition of acute exacerbation of chronic obstructive pulmonary disease. [1] **b)** Differential diagnoses of acute exacerbation of COPD. [3] **c)** Treatment of acute exacerbation of COPD. [4] **d)** Indications and relative contraindications for NIV in acute exacerbation of COPD. [2] — *DNB Oct 2024 P-III*

**6.** **a)** How will you classify severity of bronchial asthma? [3] **b)** How will you define acute exacerbation of bronchial asthma? [2] **c)** Discuss management of acute exacerbation of bronchial asthma. [5] — *DNB May 2024 P-III*

**7.** **a)** Initial assessment and management of acute severe asthma exacerbation. [5] — *DNB Oct 2023 P-III*

**8.** Enumerate asthma mimickers. Classify asthma based on severity and treatment of asthma patients at ED. — *KUHS Jul 2023 P-III*

**9.** Evaluate and manage a 70 years old COPD patient reporting with acute breathlessness at ED. Discuss role of non-invasive ventilation in COPD. — *KUHS Jul 2023 P-III*

**10.** **a)** Pathophysiology of bronchial asthma. [4] **b)** Discuss clinical and laboratory (blood gas and pulmonary functions) parameters in a patient with severe asthma. [3] **c)** How would you teach a patient regarding use of metered-dose inhalers? [3] — *DNB Jun 2021 P-I*

**11.** Enumerate causes of acute breathlessness. Describe in detail the etiopathogenesis, presentations and management of bronchial asthma in elderly. — *KUHS Jun 2020 P-III*

**12.** **a)** How to classify severity of asthma exacerbation in adults? [3] **b)** ED treatment of acute asthma. [3] **c)** Indications for mechanical ventilation in acute asthma. [2] **d)** How will you manage a patient of acute asthma who is on a ventilator? [2] — *DNB Jun 2019 P-III*

**13.** Status a sthmatics — *KUHS Apr 2019 P-III*

**14.** **a)** How a patient of COPD with acute exacerbation presents in ED? [3] **b)** How to classify them according to severity? [3] **c)** ED management of such cases. [4] — *DNB Dec 2018 P-III*

**15.** A 30 year old presents to the emergency with an acute onset of breathlessness. **a)** Enumerate the causes of acute onset of breathlessness [3] **b)** In a patient with acute asthma, how do you classify his asthma attack based on the peak expiratory flow rate (PEFR). [2] **c)** What are the indications for


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assisted ventilation in a patient with acute asthma? [2] **d)** What are the initial ventilator settings for invasive positive pressure ventilation in acute asthma? [3] — *DNB Dec 2017 P-III*

16. Management of acute bronchial asthma in pregnant woman in ED. — *KUHS May 2017 P-III*
17. **a)** What are the causes of acute onset of dyspsea with wheezing? [2] **b)** Grading of acute severe asthma. [3] — *DNB Dec 2016 P-III*
18. **[7 marks]** Classification of asthma severity. — *TNMGR Dec 2024 P-II*
19. **[7 marks]** Management of Status Asthmaticus. — *TNMGR Jul 2023 P-II*

## 5.2 Pneumonia and respiratory infections *(9 papers)*

1. **Essay [20 marks]** What is community acquired pneumonia (CAP). How does the clinical presentation differ in elderly. What are the most common etiological agents, diagnosis and management of CA P in the elderly. — *KUHS Nov 2025 P-III*
2. **a)** Describe the pathophysiology of pulmonary tuberculosis infection. [6] — *DNB Dec 2025 P-I*
3. **c)** Explain the emergency department management of community acquired pneumonia. [5] — *DNB Jun 2025 P-III*
4. **a)** Enumerate the common pathogens of community acquired pneumonia based on age-group and describe CURB-65 rule. [5] **b)** Discuss investigations and management of community acquired pneumonia in an adult in the emergency department. [5] — *DNB Dec 2022 P-III*
5. HCAP — *KUHS May 2021 P-III*
6. **a)** Etiology of community-acquired pneumonia. [2] **b)** Clinical and radiological features in a patient with pneumonia. [4] **c)** CURB-65 score. [2] **d)** Outpatient antibiotic therapy for community acquired pneumonia. [2] — *DNB Jun 2020 P-III*
7. Lung abscess — *KUHS Oct 2018 P-III*
8. Ventilator associated pneumonia — *KUHS Jun 2015 P-III*
9. **[7 marks]** Community acquired pneumonia. — *TNMGR Oct 2025 P-II*

## 5.3 ARDS and acute respiratory failure *(12 papers)*

1. **Essay [20 marks]** Discuss causes, pathophysiology clinical features, diagnosis and treatment of hypoxemia — *KUHS May 2022 P-II*
2. **Essay [20 marks]** A 45 years old female came to emergency department with high grade fever, severe breathlessness past 5 days. Her BP was 90/60mmHg, HR-135/min, RR- 48/min, SPO2-46% in room air, SPO2 improved to 70% with NRBM and 90% with BiPAP ventilation. Patient restless, non-cooperative. Chest radiograph reveals bilateral patchy infiltrates. Bedside echocardiography reveals normal cardiac status. Answer the following. **a)** New BERLIN criteria for ARDS [3] **b)** Barotrauma and volutrauma [3] **c)** Permissive hypercapnia [5] **d)** Functional residual capacity and its influence [5] **e)** Indications and contraindications of non invasive ventilation [4] — *KUHS Jun 2015 P-I*
3. **b)** Describe Berlin definition of acute respiratory distress syndrome and discuss ventilator strategies for ARDS patient. [5] — *DNB Oct 2023 P-III*
4. **b)** Management of Type I respiratory failure in ED. [5] — *DNB Apr 2023 P-III*
5. **b)** Enumerate the causes and evaluation of hypercapnia in ED. [6] — *DNB Apr 2023 P-I*
6. **b)** Diagnosis of acute respiratory distress syndrome in emergency. [5] — *DNB Dec 2021 P-I*
7. Discuss type-II respiratory failure. — *KUHS May 2021 P-I*
8. **a)** Describe pathophysiology of ARDS in dengue and malaria. [4] — *DNB Dec 2019 P-I*
9. **b)** Enumerate causes of type 1 respiratory failure. [1] **c)** Enumerate causes of type 2 respiratory failure. [2] — *DNB Dec 2018 P-I*
10. Management of acute respiratory distress syndrome — *KUHS Oct 2018 P-II*
11. **a)** Enumerate causes for acute respiratory distress syndrome (ARDS) [3] **b)** Berlin diagnostic criteria for ARDS. [3] **c)** Ventilator management of ARDS. [4] — *DNB Jun 2018 P-III*


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**12.** ARDS-new berlin criteria and ventilator settings — *KUHS Jun 2015 P-III*

## 5.4 Pneumothorax, pleural effusion and haemoptysis *(4 papers)*

**1.** **Essay [20 marks]** Discuss the common causes, clinical features, evaluation and treatment of a patient with life threatening haemoptysis. — *KUHS Jun 2016 P-III*

**2.** **a)** Outline the approach to acute haemoptysis in the ED. [5] **b)** Discuss indications for bronchoscopy and embolization in management of acute haemoptysis. [5] — *DNB Dec 2025 P-III*

**3.** Discuss causes evaluation and management of a patient with life threatening hemoptysis — *KUHS Jun 2024 P-III*

**4.** A 45-year-old presents to emergency department with history of hemoptysis for one day and develops massive hemoptysis in the ED. **a)** Discuss the differential diagnosis of hemoptysis. [4] **b)** How will you manage the patient? [6] — *DNB Jun 2021 P-III*

**5.** Spontaneous pneumothorax — *KUHS Jun 2016 P-III*

## 5.5 Approach to dyspnoea and other respiratory emergencies *(4 papers)*

**1.** **Essay [20 marks]** (a) Enumerate the causes of Acute Breathlessness (b) Differentiate cardiac and respiratory cause (c) Clinical features and Management of LVF (d) ECG changes of STEM I in coexistent bundle branch block — *KUHS May 2022 P-I*

**2.** Discuss pathophysiology, clinical features, diagnosis and management of Cyanosis. — *KUHS Jan 2025 P-III*

**3.** Discuss causes and management in a patient presenting to ED with stridor — *KUHS Jun 2024 P-IV*

**4.** **a)** Enumerate the causes of acute onset dyspnea in adult patient, based on severity. Discuss the investigations performed to establish the diagnosis. [4] — *DNB Dec 2019 P-III*

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# 6. Neurological Emergencies (83 questions)

## ★ Most-asked topics in this chapter

- Stroke and TIA — ***asked in 20 papers***
- Altered sensorium, coma and brain death — ***asked in 17 papers***
- Headache and vertigo — ***asked in 10 papers***
- Intracranial and subarachnoid haemorrhage — ***asked in 9 papers***
- Seizures and status epilepticus — ***asked in 9 papers***
- Acute weakness – GBS, myasthenia, neuropathy — ***asked in 9 papers***
- CNS infections — ***asked in 7 papers***

## 6.1 Stroke and TIA *(20 papers)*

**1.** **Long essay [15 marks]** Stroke syndromes – Classification, management, different diagnosis, NIHSS scale. — *TNMGR Oct 2025 P-II*

**2.** **Essay [20 marks]** Describe clinical presentation of cases with acute brain stroke. Enumerate thrombotic stroke mimics. Describe stroke thrombolysis inclusion criteria, exclusion criteria, absolute and relative contraindications and standard method of stroke thrombolysis. Describe current approach in a case of wake up stroke. — *KUHS Jul 2023 P-III*

**3.** **Essay [20 marks]** Discuss the anatomy of the cerebral circulation. Discuss the evaluation and treatment of acute ischaemic stroke. — *KUHS Oct 2018 P-I*

**4.** **Essay [20 marks]** Describe the anatomy and pathophysiology of vascular supply of brain. What are the clinical features, differential consideration, diagnostic strategies and management of ischemic stroke. — *KUHS May 2017 P-III*

**5.** **a)** Enumerate stroke mimics with its distinguishing clinical features. [5] **b)** Discuss thrombolytic methods in acute ischemic stroke. [5] — *DNB Jun 2025 P-III*

**6.** **a)** Define transient ischemic attack. [2] **b)** Discuss evaluation, risk stratification and management of a patient with transient ischemic attack in the emergency department. [5] **c)** Discuss the imaging protocol in awake up stroke. [3] — *DNB May 2024 P-III*

**7.** **a)** Role of radiology in cerebrovascular stroke. [5] **b)** Inclusion and exclusion criteria for IV Alteplase in acute ischemic stroke. [5] — *DNB Oct 2023 P-III*

**8.** **a)** Enumerate items included for neurologic evaluation in the National Institutes of Health Stroke Scale (NIHSS). [5] — *DNB Oct 2023 P-I*

**9.** **b)** Describe the utility and method of ASPECT scoring. [5] — *DNB Jun 2022 P-III*

**10.** **b)** Discuss thrombolytic therapy for stroke in emergency department. [5] — *DNB Jun 2022 P-III*

**11.** **b)** Describe the pathophysiology of acute ischemic stroke. [5] — *DNB Jun 2022 P-I*

**12.** Enumerate stroke mimics. Inclusion and exclusion criteria for thrombolysis in acute stroke, discuss thrombolytic methods in ED — *KUHS May 2022 P-III*

**13.** Advances in Stroke Care. What are the current recommendations in prehospital, ED and stroke treatments. — *KUHS May 2022 P-IV*

**14.** **b)** Diagnosing cortical venous sinus thrombosis in ER. [5] — *DNB Dec 2021 P-I*

**15.** Classify cerebrovascular accident in an elderly patient. Add note on indication, precautions and complications of thrombolytic therapy in a stroke patient. — *KUHS Jun 2020 P-III*

**16.** **c)** Enumerate the anatomical and physiological risk factors of acute ischemic stroke. [3] — *DNB Dec 2019 P-I*

**17.** **b)** Recent advances in management of stroke. [5] — *DNB Dec 2019 P-IV*

**18.** **a)** Enumerate cerebral stroke mimics. [2] **b)** Write cerebral stroke thrombolysis-inclusion criteria. [1] **c)** Enumerate exclusion criteria. [2] **d)** Which investigations are must, before doing stroke


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thrombolysis. [2] **e)** Enumerate medicines and their dose used in thrombolysis. [3] — *DNB Dec 2018 P-III*

19. A 42 year old male is brought to the ED with right arm and leg weakness with slurring of speech for past 2 hours. His vitals are PR 100/min, BP 200/130 mmHg and oxygen saturation 95%. He is fully conscious. **a)** Step-wise assessment and management of this patient in ED. [5] **b)** What are stroke-mimics? [2] **c)** What are the absolute and relative contraindications to fibrinolytic therapy? [3] — *DNB Dec 2017 P-III*
20. **a)** Enumerate stroke mimics. [2] **b)** Inclusion and exclusion criteria for thrombolysis in acute stroke. [4] **c)** Standard method of thrombolysis in ischemic stroke. [4] — *DNB Dec 2016 P-III*
21. **[7 marks]** EXTEND trial for Thrombolysis. — *TNMGR Dec 2024 P-IV*

## 6.2 Intracranial and subarachnoid haemorrhage *(9 papers)*

1. **a)** Discuss imaging, lumbar puncture findings and medical management of the subarachnoid hemorrhage in the emergency department. [5] — *DNB Jun 2025 P-III*
2. **a)** Discuss the causes, work up and management of non traumatic subarachnoid hemorrhage. [5] — *DNB Jun 2022 P-III*
3. **b)** White cerebellar sign. [2] — *DNB Dec 2019 P-IV*
4. **a)** Clinical presentation of a case presenting with acute non traumatic intracranial bleed. [3] **b)** ED management of such cases. [4] **c)** How to manage raised intracranial pressure in ED? [3] — *DNB Dec 2018 P-III*
5. **a)** Draw neat labelled diagram of cerebral circulation. [3] **b)** How is cerebral autoregulation maintained? [3] **c)** Cerebral herniation syndromes. [4] — *DNB Jun 2018 P-I*
6. Treatment of patients with intra cerebral haemorrhage — *KUHS Apr 2018 P-III*
7. **a)** Name three recent trials on control of blood pressure in patients with intracranial hemorrhage. [3] **b)** Discuss anyone of them. [4] **c)** Discuss briefly about drugs to control blood pressure in patients with intracranial hemorrhage. [3] — *DNB Dec 2017 P-IV*
8. A 60 year old hypertensive patient presents with severe headache for 3 hours. **a)** List different causes of acute headache. [3] **b)** How will you investigate a patient with suspicion of subarachnoid haemorrhage? [3] **c)** How will you manage a patient with subarachnoid haemorrhage in emergency department? [4] — *DNB Jun 2017 P-II*
9. **a)** What are the recent clinical trials done on management of hypertensive intracerebral haemorrhage? [3] **b)** Discuss briefly anyone of the trials. [3] **c)** Latest guidelines for the management of hypertensive intracerebral haemorrhage. [4] — *DNB Dec 2016 P-IV*

## 6.3 Seizures and status epilepticus *(9 papers)*

1. **Long essay [15 marks]** Status epilepticus: Definition, causes, presentation, investigations and management. — *TNMGR Dec 2024 P-II*
2. **Essay [20 marks]** Define refractory sta t us epilepticus and discuss its management in an adult patient — *KUHS Jun 2024 P-III*
3. Define status epilepticus, ED general management. — *KUHS Jan 2025 P-IV*
4. What are the common causes of status epilepticus. How do you manage in ED. When will you consider transferring to ICU. — *KUHS Jul 2023 P-II*
5. A 20-year-old presents with recurrent seizures and altered sensorium for 8 hours. While evaluatiung in the ED, he develops a generalized tonic-clonic seizure. **a)** How will you rapidly assess and manage the patient? [6] **b)** Enumerate the causes of generalized status epilepticus? [3] **c)** Describe the indication for CT scan head in a patient with seizure in emergency department. [1] — *DNB Jun 2021 P-III*
6. **c)** Antiepileptic therapy in emergency department. [2] — *DNB Dec 2019 P-III*
7. **a)** Define status epilepticus. [1] **b)** Define refractory status. [1] **c)** Step wise approach to the management of a case of status epilepticus in ED. [8] — *DNB Dec 2018 P-III*


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8. Status epilepticus — *KUHS Oct 2018 P-III*
9. **a)** Name newer anti-epileptic drugs. [3] **b)** Dose and advantages of levetiracetam. [3] **c)** Give algorithm for management of status epilepticus. [4] — *DNB Dec 2016 P-IV*

## 6.4 Altered sensorium, coma and brain death *(17 papers)*

1. **Essay [20 marks]** 40 years old gentleman was brought to emergency room-ICU with history of treated for stroke elsewhere in outside hospital. Referred here with sudden onset of altered sensorium. List the causes of altered sensorium in this patient and appropriate management. — *KUHS Jun 2015 P-III*
2. **a)** Discuss the ED evaluation of a patient in locked in syndrome. [5] — *DNB Dec 2025 P-III*
3. Define ICU psychosis. Discuss the clinical features and management of delirium in ICU. — *KUHS Nov 2025 P-II*
4. **a)** Discuss criteria for diagnosis of brain death and ancillary studies used to confirm brain death. [5] — *DNB Oct 2023 P-IV*
5. **a)** Define delirium. What are its various causes? [4] **b)** Describe the components of Confusion Assessment Method (CAM). [2] **c)** Describe Richmond Agitation Sedation Scale. [4] — *DNB Dec 2022 P-III*
6. **a)** Define brain death. [1] **b)** Discuss clinical evaluation of a patient to confirm brain death. [6] — *DNB Dec 2022 P-I*
7. **a)** Definition of delirium. [1] **b)** Etiology of acute delirium in ED. [3] **c)** Assessment of a patient with delirium. [4] **d)** Pharmacological restraint in an agitated patient in ED. [2] — *DNB Jun 2020 P-III*
8. **a)** Pre-requisites before initiating clinical tests to declare a patient 'brain dead'. [2] **b)** Clinical tests required to be done to declare a patient 'brain dead'. [5] **c)** Care of patient who has been declared 'brain dead' and is a potential organ donor. [3] — *DNB Jun 2020 P-IV*
9. **b)** Approach and management of coma in a young adult. [3] — *DNB Dec 2019 P-III*
10. Emergency Neurological Life Support (ENLS). — *KUHS Apr 2019 P-III*
11. Differential diagnosis of coma — *KUHS Apr 2018 P-III*
12. A 30-year patient presents to the emergency with fever and altered sensorium. **a)** Enumerate differential diagnosis [4] **b)** Approach to the patient in the ED [6] — *DNB Dec 2017 P-III*
13. **a)** Define 'Delirium'. [1] **b)** List types of delirium. [2] **c)** Enumerate causes of delirium in elderly. [3] **d)** How will you manage a delirious patient? [4] — *DNB Jun 2017 P-III*
14. **a)** Define "Ataxia". [2] **b)** What are various features of cerebellar disease? [4] **c)** How do you differentiate between cerebellar ataxia and sensory ataxia? [4] — *DNB Jun 2017 P-I*
15. Delirium — *KUHS Jun 2016 P-IV*
16. **[7 marks]** AVPU assessment. — *TNMGR Oct 2025 P-IV*
17. **[7 marks]** Certification of Brain death. — *TNMGR Dec 2024 P-IV*

## 6.5 Headache and vertigo *(10 papers)*

1. **Essay [20 marks]** Discuss etiology, categories of headache. Briefly explain the clinical features and management of life threatening, primary headache syndrome and secondary causes of headache. — *KUHS Jan 2025 P-III*
2. **a)** Outline the ED approach to acute vertigo. [5] **b)** Differentiate peripheral vs central causes of acute vertigo. [5] — *DNB Dec 2025 P-III*
3. **a)** Describe the ED evaluation of acute headache. [5] **b)** Discuss red flag features and indications for neuroimaging. [5] — *DNB Dec 2025 P-III*
4. How to differentiate central vertigo from peripheral vertigo. Discuss management of vertigo in ED. — *KUHS Jun 2024 P-III*
5. **b)** Clinical features and emergency department treatment of an acute attack of migraine. [5] — *DNB Dec 2022 P-III*
6. **a)** Describe the assessment and management of acute onset vertigo. [5] — *DNB Jun 2022 P-II*


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7. A 60-year-old presents with dizziness for two hours. **a)** Discuss briefly the differential diagnosis of acute onset dizziness. [3] **b)** Discuss the key differences between peripheral and central vertigo. [5] **c)** Discuss the management algorithm of acute onset vertigo. [2] *— DNB Jun 2021 P-III*
8. **b)** Assessment and management of acute onset vertigo. *— DNB Jun 2020 P-II*
9. **a)** HINTS test. [3] *— DNB Dec 2019 P-IV*
10. Approach to acute onset vertigo. *— KUHS Apr 2019 P-III*
11. **a)** Define vertigo. [1] **b)** What is vestibulo-ocular reflex? [2] **c)** How do you differentiate peripheral from central vertigo? [3] **d)** Diagnostic approach to a patient with vertigo in Emergency Department (ED). [4] *— DNB Jun 2018 P-I*

## 6.6 Acute weakness – GBS, myasthenia, neuropathy *(9 papers)*

1. **a)** Discuss the causes and management of acute onset nontraumatic quadriparesis. [5] *— DNB Apr 2023 P-III*
2. **a)** Describe the anatomy and physiology of neuromuscular junction. [5] **b)** Enumerate the differential diagnosis of acute onset quadriparesis. [5] *— DNB Jun 2022 P-I*
3. A 20-year-old male presents to the ER with complaints of lower limb weakness since 2 days. **a)** Critical and emergent causes of neuromuscular weakness. [2] **b)** Non neurologic causes of weakness. [2] **c)** How would you assess a hemodynamically stable patient for a neural /muscular cause of weakness? [6] *— DNB Dec 2020 P-III*
4. **a)** Describe the anatomy and physiology of neuromuscular junction. [4] **b)** Enumerate differential diagnosis of acute onset quadriparesis. [3] **c)** Management of myasthenic crisis. [3] *— DNB Jun 2020 P-I*
5. Acute infective demyelinating polyneuropathy-recent advances in treatment *— KUHS Oct 2018 P-III*
6. **a)** Enumerate causes of acute flaccid paralysis in adults. [3] *— DNB Jun 2017 P-III*
7. **a)** Anatomy of lower motor neurons with a suitable diagram. [4] **b)** Clinical signs characteristic of lower motor neuron disease. [3] **c)** Enumerate causes of episodic generalized weakness. [3] *— DNB Jun 2017 P-I*
8. **c)** Give a differential diagnosis of acute flaccid paralysis. [3] *— DNB Dec 2016 P-III*
9. **[7 marks]** Guillain Barre syndrome. *— TNMGR Dec 2024 P-II*

## 6.7 CNS infections *(7 papers)*

1. **a)** Describe the anatomical landmarks and technique for lumbar puncture. [5] **b)** Discuss CSF findings in bacterial vs viral meningitis. [5] *— DNB Dec 2025 P-I*
2. **a)** Discuss etiology, investigations and treatment of acute meningitis in children. [6] *— DNB Dec 2022 P-IV*
3. C.S.F. findings in bacterial, viral and fungal meningitis *— KUHS May 2022 P-III*
4. **a)** Draw and describe the cerebrospinal fluid production, flow and normal findings on examination. [4] **b)** Cerebrospinal fluid findings between bacterial, viral and tubercular meningitis. [3] **c)** Describe the difference between encephalitis and meningitis. [3] *— DNB Jun 2021 P-I*
5. **a)** Discuss etiology and assessment of a 25-year-old patient presenting with fever and altered sensorium. *— DNB Jun 2020 P-III*
6. **a)** Describe the clinical features and management of meningitis in a pediatric age group. [5] *— DNB Dec 2019 P-III*
7. **a)** Etiology of meningitis in children. **b)** Clinical features, physical examination, laboratory evaluation and ED treatment of bacterial meningitis in this age group. *— DNB Dec 2018 P-IV*

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# 7. Gastrointestinal, Hepatic and Renal Emergencies (62 questions)

## ★ Most-asked topics in this chapter

- Acute kidney injury, CKD and dialysis emergencies — ***asked in 24 papers***
- Gastrointestinal bleeding — ***asked in 16 papers***
- Jaundice, liver failure and hepatic encephalopathy — ***asked in 14 papers***
- Other GI emergencies – diarrhoea, dysphagia, foreign body — ***asked in 8 papers***

## 7.1 Gastrointestinal bleeding *(16 papers)*

1. Discuss the causes of upper gastrointestinal bleeding. How will you assess the severity of the bleeding. What steps will you take in ED to manage these patients. — *KUHS Nov 2025 P-III*
2. **b)** Management of a patient with lower GI bleed. [5] — *DNB May 2024 P-III*
3. **a)** Discuss investigations and treatment of upper gastrointestinal bleed. [5] — *DNB Oct 2023 P-II*
4. **a)** Enumerate the causes of significant upper gastrointestinal bleed in a patient. [3] **b)** How will you manage a patient with cardiovascular collapse secondary to UGI bleed? [7] — *DNB Apr 2023 P-III*
5. **b)** Evaluation and management of a case of bright red rectal bleed. [5] — *DNB Apr 2023 P-II*
6. **b)** Management of massive hematemesis in Emergency Department. [5] — *DNB Jun 2022 P-III*
7. ED management of Upper GI bleed — *KUHS May 2022 P-III*
8. **b)** Acute hematochezia and its management in ED. [5] — *DNB Dec 2021 P-II*
9. Assessment of upper GI bleed — *KUHS May 2021 P-III*
10. Describe how to manage a case of upper GI bleeding presented to ED — *KUHS Jun 2020 P-II*
11. **a)** Enumerate causes of lower gastrointestinal bleed. [2] **b)** How will you differentiate upper from lower GI bleed? [2] **c)** ED evaluation of a patient with lower GI bleed. [4] **d)** Management of a patient with lower GI bleed. [2] — *DNB Jun 2019 P-II*
12. Causes and management of hematemesis in a 70-year adult patient with history of smoking and alcohol abuse. — *KUHS Apr 2019 P-II*
13. Sengstaken – Blake more tube — *KUHS Apr 2018 P-I*
14. Upper GI beeding — *KUHS May 2017 P-II*
15. **a)** Define upper gastrointestinal bleeding. [1] **b)** Enumerate causes of massive upper GI bleeding. [3] **c)** ED management of massive upper GI bleeding. [4] **d)** Pro and cons of different modalities of treatment. [2] — *DNB Dec 2016 P-III*
16. Emergency management of upper GI bleed — *KUHS Jun 2016 P-II*

## 7.2 Jaundice, liver failure and hepatic encephalopathy *(14 papers)*

1. **Essay [20 marks]** What is cirrhosis liver. Discuss the causes, clinical features, diagnosis and management of a patient presenting with hepatic encephalopathy. — *KUHS Jul 2023 P-II*
2. **b)** Hepatic encephalopathy. [5] — ***DNB Jun 2025 P-III · KUHS Oct 2018 P-II [2×]***
3. **a)** Laboratory evaluation and imaging tests for hepatobiliary disease. [5] — *DNB Jun 2025 P-I*
4. **a)** Discuss the generation and metabolism of bilirubin. [4] **b)** Discuss pathogenesis of hepatic encephalopathy. [3] **c)** Discuss pathogenesis of ascites in chronic liver disease. [3] — *DNB Oct 2024 P-I*
5. **b)** Describe the pathophysiology of acute liver failure. [4] — *DNB May 2024 P-I*
6. **a)** Biochemical changes in liver function in chronic liver disease. [5] — *DNB Apr 2023 P-I*
7. A 46-year-old female presents to the ER with jaundice, fever with chills and right upper quadrant pain since 2 days. **a)** What could be the differential diagnosis in the above case? [3] **b)**

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Management of the above patient on the ER. (Inv estigations and treatment). [7] — *DNB Dec 2020 P-III*

8. **a)** Approach to the management of a young adult with fever and jaundice. Discuss the diagnostic algorithm. [4] — *DNB Dec 2019 P-III*
9. **a)** Define acute hepatic encephalopathy. [2] **b)** Clinical features of acute hepatic encephalopathy. [3] **c)** ED treatment of acute hepatic encephalopathy. [3] **d)** Define acute on chronic liver failure. [2] — *DNB Jun 2019 P-III*
10. **a)** What are the causes acute onset of jaundice? [2] **b)** List the complications of cirrhosis of liver [2] **c)** Discuss briefly spontaneous bacterial peritonitis [3] **d)** Discuss briefly hepato-renal syndrome [3] — *DNB Dec 2017 P-III*
11. **b)** Enumerate causes of portal hypertension. [3] **c)** Pathophysiology of ascites in cirrhosis of liver. [4] — *DNB Jun 2017 P-I*
12. Liver function test and its importance — *KUHS Jun 2015 P-I*
13. **[7 marks]** Spontaneous bacterial peritonitis. — *TNMGR Jul 2023 P-II*

## 7.3 Other GI emergencies – diarrhoea, dysphagia, foreign body *(8 papers)*

1. **a)** Discuss the emergency management of swallowed foreign body in adult patient. [5] — *DNB Dec 2025 P-II*
2. Discuss briefly the differences between inflammatory and non-inflammatory diarrhea. Describe the common causative infections and treatment of diarrhea. — *KUHS Jan 2025 P-I*
3. Describe causes and how to manage a case of acute diarrhoea with hypotension in ED and describe in detail about haemolytic uremic syndrome. — *KUHS Jun 2024 P-II*
4. **a)** Discuss the differential diagnosis of acute onset diarrhea in an immunocompromised patient. [5] — *DNB May 2024 P-III*
5. **b)** Define food poisoning. [1] **c)** Clinical features and management of acute diarrhea due to C. difficile infection. [6] — *DNB Dec 2022 P-IV*
6. Enumerate causes, discuss pathophysiology and management of hiccups — *KUHS May 2022 P-III*
7. **a)** Approach to a case of acute dysentery in an adult patient in ED. [5] — *DNB Dec 2021 P-III*
8. A 70 year old patient presents with dysphagia to solids. **a)** Enumerate causes of dysphagia at this age. [3] **b)** How would you evaluate this patient? [3] **c)** Management of acute dysphagia in elderly. [4] — *DNB Jun 2017 P-II*

## 7.4 Acute kidney injury, CKD and dialysis emergencies *(24 papers)*

1. **Essay [20 marks]** Describe the pathophysiological changes, clinical approach, ancillary tests and management of acute renal failure — *KUHS Nov 2025 P-IV*
2. **Essay [20 marks]** Discuss pathophysiology, clinical features of uremia, indications for hemodialysis and complications of hemodialysis. — *KUHS May 2022 P-IV*
3. **a)** Discuss emergency department evaluation of hemodialysis patients. [5] — *DNB Jun 2025 P-III*
4. RIFLE criteria — *KUHS Jun 2024 P-IV*
5. Complications of Hemodialysis — *KUHS Jun 2024 P-IV*
6. **a)** Discuss the KDIGO classification of acute kidney injury. [3] **b)** Describe the causes of acute kidney injury. [4] **c)** Enumerate the role of urinalysis in acute kidney injury. [3] — *DNB May 2024 P-III*
7. **a)** What are the different criteria for diagnosis of acute kidney injury? [5] **b)** Enumerate the indications for emergent renal replacement therapy. [5] — *DNB Oct 2023 P-III*
8. Discuss the stabilization of: **b)** Renal transplant recipient coming with uremic features. [5] — *DNB Apr 2023 P-IV*
9. **b)** Discuss the pathophysiology of acute kidney injury due to rhabdomyolysis. [5] — *DNB Jun 2022 P-I*
10. **b)** Acute kidney injury scoring systems in ER. [5] — *DNB Dec 2021 P-I*


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11. **a)** Draw and describe functional unit of kidney. [4] **b)** Evaluation of renal functions. [3] **c)** Describe urinary findings of acute tubular necrosis. [3] — *DNB Jun 2021 P-I*

12. Describe about indications of haemodialysis, complications likely during haemodialysis and how to manage them. — *KUHS May 2021 P-IV*

13. A 57-year-old patient, known case of chronic renal disease on regular dialysis thrice a week, presents to the ER from the dialysis unit with hypotension. **a)** Key elements of history of the hemodialysis patient in the ER. [3] **b)** Differential diagnosis of peridialytic hypotension. [4] **c)** Disequilibrium syndrome. [3] — *DNB Dec 2020 P-III*

14. **a)** Illustrate counter current mechanisms for urine acidification. [4] **b)** Various methods to provide renal replacement therapy. [3] **c)** Emergency complications in a patient with renal transplant. [3] — *DNB Jun 2020 P-I*

15. Renal replacements therapy — *KUHS Jun 2020 P-IV*

16. **a)** Describe etiopathogenesis, clinical features and management of acute kidney injury. [4] **c)** Urinalysis in emergency department. [2] **d)** Indications for RRT in ED. [2] — *DNB Dec 2019 P-III*

17. **a)** Define acute kidney injury. [1] **b)** Stages of acute kidney injury. [3] **c)** Investigations in a patient with acute kidney injury. [4] **d)** Contrast induced nephropathy. [2] — *DNB Jun 2019 P-III*

18. **a)** Enumerate causes of rhabdomyolysis. [2] **b)** Clinical features of rhabdomyolysis. [2] **c)** Diagnosis of rhabdomyolysis [3] **d)** Treatment of rhabdomyolysis in ED. [3] — *DNB Jun 2018 P-III*

19. RIFLE classification of acute kidney injury — *KUHS Apr 2018 P-IV*

20. **a)** Pathophysiology of acute kidney injury [3] **b)** RIFLE criteria for acute kidney injury [3] **c)** Laboratory evaluation of acute kidney injury [2] **d)** Radiocontrast-induced nephropathy [2] — *DNB Dec 2017 P-III*

21. **a)** Staging of chronic kidney disease (CKD). [3] **b)** Emergency complications of end-stage CKD. [4] **c)** Emergency complications of hemodialysis. [3] — *DNB Jun 2017 P-III*

22. **a)** State the RIFLE criteria for classification of acute kidney injury. [3] **d)** Indications for emergent dialysis. [3] — *DNB Dec 2016 P-III*

23. Sustained low efficiency dialysis — *KUHS Jun 2016 P-IV*

24. KDIGO criteria — *KUHS Jun 2015 P-IV*

25. **[7 marks]** Rhabdomyolysis. — *TNMGR Oct 2025 P-II*

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# 8. Metabolic, Endocrine, Electrolyte and Acid–Base Emergencies (90 questions)

### ★ Most-asked topics in this chapter

- Thyroid, adrenal and pituitary emergencies — ***asked in 28 papers***
- Diabetic emergencies – DKA, HHS and hypoglycaemia — ***asked in 24 papers***
- Potassium, calcium and magnesium disorders — ***asked in 15 papers***
- Acid–base disorders and ABG — ***asked in 15 papers***
- Sodium and water disorders — ***asked in 12 papers***

## 8.1 Diabetic emergencies – DKA, HHS and hypoglycaemia *(24 papers)*

**1.** **Essay [20 marks]** Describe pathophysiology of diabetes ketoacidosis (DKA). Enumerate ED presentation of patient with diabetes ketoacidosis, laboratory parameter alteration in case of DKA, management in emergency department. — *KUHS Jan 2025 P-IV*

**2.** **Essay [20 marks]** A known diabetic patient presents to the ED with altered sensorium and bed side glucose of 600 mg/dl. Discuss your approach and management — *KUHS Jun 2024 P-IV*

**3.** **Essay [20 marks]** Discuss how to differentiate between diabetic ketoacidosis (DKA) and hyperosmolar non-ketotic coma, diagnosis of hypoglycaemia, management of DKA. — *KUHS Apr 2019 P-IV*

**4.** **Essay [20 marks]** Describe the clinical features, diagnosis, laboratory studies and treatment of hyperosmolar hyperglycaemic state. — *KUHS Oct 2018 P-IV*

**5.** **Essay [20 marks]** Describe the clinical features, diagnosis, laboratory studies and treatment of diabetic ketoacidosis. — *KUHS May 2017 P-IV*

**6.** **Essay [20 marks]** 60 years old lady, known diabetic was brought to emergency room with history of increased thirst, abdominal pain, vomiting, and breathlessness since one week. Investigations revealed CBG-454 mg/dl, pH-7.12, pCO2-14, pO2-80, HCO3-12 with FiO2-21%. Kindly discuss on diagnosis and management of this patient. — *KUHS Jun 2015 P-IV*

**7.** Diabetic ketoacidosis — ***KUHS Jun 2020 P-IV · KUHS Jun 2016 P-II [2×]***

**8.** Diagnosis of management of diabetic ketoacidosis — *KUHS Nov 2025 P-IV*

**9.** **a)** Describe clinical features, diagnosis and treatment of hypoglycemia in emergency department. [5] — *DNB Jun 2025 P-III*

**10.** **c)** Insulin pumps. [5] — *DNB Oct 2024 P-III*

**11.** **b)** Management of a patient with sulphonylurea-induced hypoglycemia. [4] — *DNB May 2024 P-III*

**12.** **a)** How diabetic ketoacidosis is diagnosed? [5] **b)** Describe the treatment of diabetic ketoacidosis. [5] — *DNB Oct 2023 P-III*

**13.** Diagnosis and management of diabetic ketoacidosis. — *KUHS Jul 2023 P-IV*

**14.** **a)** Describe the pathophysiology of diabetic ketoacidosis Versus hyperglycemic hyperosmolar syndrome. [5] — *DNB Jun 2022 P-I*

**15.** Describe pathophysiology, clinical features diagnosis and management of hypoglycemia in ED. — *KUHS May 2022 P-IV*

**16.** **a)** Evaluation and management of hypoglycemia in ED. [5] — *DNB Dec 2021 P-III*

**17.** A 12-year-old boy weighing 49 kg presents to the ER with abdominal pain, nausea and vomiting since 2 days. The blood glucometer gives a 'high' reading. He is acidotic with a pH of 7.15 and bicarbonate of 8 mmol/l. The blood ketones come as 4mmol/l. You diagnose him as diabetic ketoacidosis. Discuss: **a)** Fluid management in DKA. [3] **b)** Insulin therapy in DKA. [2] **c)** Role of bicarbonate. [1] **d)** Investigations and monitoring. [2] **e)** What are the complications of diabetic ketoacidosis? [2] — *DNB Dec 2020 P-IV*


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18. **a)** Patho-physiology of diabetic ketoacidosis. [5] **b)** Diagnostic criteria for diabetic ketoacidosis. [3] **c)** Complications of diabetic ketoacidosis. [2] — *DNB Jun 2020 P-I*

19. **a)** Clinical presentation of a case of diabetic ketoacidosis(DKA). [2] **b)** Laboratory investigations of importance in such case. [2] **c)** Management of such cases in ED. [6] — *DNB Dec 2018 P-III*

20. **a)** Define hypoglycaemia. [2] **b)** Enumerate causes for hypoglycaemia. [2] **c)** Clinical features of hypoglycaemia. [3] **d)** How do you manage sulfonylurea induced hypoglycaemia? [3] — *DNB Jun 2018 P-III*

21. **a)** Pathophysiology of hyperosmolar hyperglycemic state. [3] **b)** Diagnostic criteria of hyperosmolar hyperglycemic state. [3] **c)** How do you differentiate between hypermolar hyperglycemic state and diabetic ketoacidosis. [4] — *DNB Jun 2017 P-I*

22. **a)** Pathophysiology and diagnostic criteria of diabetic ketoacidosis. **b)** Mention important laboratory tests to be done in a case of suspected diabetic ketoacidosis. — *DNB Dec 2016 P-I*

23. **[7 marks]** Diagnostic criteria and treatment of diabetic Ketoacidosis. — *TNMGR Jul 2023 P-II*

## 8.2 Thyroid, adrenal and pituitary emergencies *(28 papers)*

1. **Essay [20 marks]** 50 years old lady, was brought to emergency room with history of severe palpitation, sweating, emaciated, protruding eyes, swelling in anterior aspect of neck in midline and with HR of 145/min. Write in detail about thyroid storm- aetiology, emergency, medical and surgical management. — *KUHS Jun 2016 P-IV*

2. Thyroid storm — ***KUHS Nov 2025 P-IV · TNMGR Dec 2024 P-II · KUHS Oct 2018 P-IV [3×]***

3. Myxoedema coma. — ***TNMGR Oct 2025 P-II · KUHS Jun 2024 P-IV · KUHS Jul 2023 P-IV [3×]***

4. Adrenal insufficiency — ***TNMGR Jul 2023 P-II · KUHS Jun 2015 P-IV [2×]***

5. **a)** Outline the ED approach to acute adrenal crisis. [5] **b)** Discuss the role of hydrocortisone and fluid therapy in acute adrenal crisis. [5] — *DNB Dec 2025 P-III*

6. Enumerate common causes of hypothyroidism. Clinical features of hypothyroidism and myxoedema, medical management of myxoedema crisis. — *KUHS Jan 2025 P-IV*

7. **a)** Clinical features of thyroid storm. [3] **b)** Precipitants of thyroid storm. [2] — *DNB Oct 2024 P-III*

8. **a)** Enumerate Burch and Wartofsky diagnostic parameters for thyroid storm and describe treatment of thyroid storm. [5] — *DNB Oct 2023 P-IV*

9. Discuss the recognition and steps of management of: **a)** Adrenal insufficiency. [5] **b)** Myxoedema coma. [5] — *DNB Apr 2023 P-III*

10. **a)** Discuss the precipitating causes, clinical features and management of myxedema coma. [6] **b)** Discuss clinical features and management of a patient with adrenal crisis. [4] — *DNB Dec 2022 P-III*

11. **b)** Briefly outline the steps in the management of thyroid storm. [5] — *DNB Jun 2022 P-III*

12. **a)** Physiology of thyroid hormone production. [2] **b)** Burch-Wartofsky Point Scale for thyroid storm. [3] **c)** Management of a patient with thyroid storm. [5] — *DNB Jun 2021 P-III*

13. Physiology of thyroid hormone production and explain thyroid storm. — *KUHS May 2021 P-I*

14. Describe about the treatment for thyroid storm — *KUHS May 2021 P-IV*

15. **a)** Physiology of adrenal hormone secretion. [5] **b)** What is the management of adrenal crisis? [5] — *DNB Dec 2020 P-I*

16. Acute adrenal insufficiency. — *KUHS Jun 2020 P-IV*

17. **a)** Precipitating factors for thyroid storm. [3] **b)** Clinical features of thyroid storm. [3] **c)** Management of thyroid storm. [4] — *DNB Jun 2019 P-III*

18. **a)** Thyroid function test of importance in ED. [3] **b)** Clinical presentation of a case of myxedema coma [3] **c)** ED management of the patient of myxedema coma. [4] — *DNB Dec 2018 P-III*

19. Thyroid storm in a pregnant woman — *KUHS Apr 2018 P-IV*

20. **a)** Clinical features of myxedema crisis [3] **b)** List differential diagnosis of myxedema crisis [2] **c)** ED treatment of myxedema crisis [5] — *DNB Dec 2017 P-III*


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21. **a)** Precipatory factors for Addisonian crisis. [3] **b)** Clinical features of Addisonian crisis. [4] **c)** Management of Addisonian crisis. [3] — *DNB Jun 2017 P-III*

22. Signs and symptoms of thyrotoxicosis — *KUHS May 2017 P-IV*

23. **a)** Precipitating factors for thyroid storm. [2] **b)** What are the diagnostic criteria for thyroid storm? [3] **c)** Investigations you will do in such a case. [3] **d)** ED management of thyroid storm. [2] — *DNB Dec 2016 P-III*

## 8.3 Sodium and water disorders *(12 papers)*

1. **Essay [20 marks]** Describe in detail about clinical features and causes of hyponatremia and hypernatremia. Describe in detail about the fluid management in ED, treatment of life threatening hyponatremia and hypernatremia. — *KUHS May 2021 P-IV*

2. **b)** Describe the pathophysiology and homeostasis of sodium. [5] — *DNB Dec 2025 P-I*

3. **a)** Discuss causes for hyponatremia and management of hyponatremia symptomatic seizures. [5] — *DNB Jun 2025 P-III*

4. **a)** Causes and diagnostic criteria of syndrome of inappropriate secretion of antidiuretic hormone (SIADH). [5] — *DNB Oct 2023 P-I*

5. **a)** Physiology of sodium homeostasis. [5] **b)** Causes of hyponatremia in elderly presenting to ER. [5] — *DNB Dec 2021 P-I*

6. Enumerate causes of hyponatremia, approach to diagnose the cause and management of cases of severe life threatening hyponatremia. — *KUHS Jun 2020 P-I*

7. **a)** Enumerate the causes and diagnostic algorithm of hypernatremia. [4] — *DNB Dec 2019 P-I*

8. **a)** Enumerate causes of hyponatremia. [3] **b)** Write approach to diagnose such cases. [3] **c)** Write about the management of life threatening hyponatremia in ICU. [4] — *DNB Dec 2018 P-I*

9. **a)** Sodium homeostasis. [4] **b)** Mention various causes of hyponatremia. [3] **c)** Pathophysiology of clinical effects of hyponatremia. [3] — *DNB Jun 2017 P-I*

10. **a)** Sodium homeostasis. [4] **b)** Mention various causes of hypernatremia. [3] **c)** Pathophysiology of clinical effects of hypernatremia. [3] — *DNB Dec 2016 P-I*

11. Hyponatremia-causes and management — *KUHS Jun 2016 P-I*

12. **[7 marks]** Hyponatremia evaluation. — *TNMGR Dec 2024 P-II*

## 8.4 Potassium, calcium and magnesium disorders *(15 papers)*

1. **a)** Describe the clinical features and ECG findings in hyperkalemia. [5] **b)** Discuss emergency treatment of hyperkalemia. [5] — *DNB Dec 2025 P-III*

2. **b)** Describe causes, diagnostic evaluation and treatment of hypokalemia. [5] — *DNB Jun 2025 P-I*

3. Describe about etiology of hyperkalaemia, diagnosis and management of life threatening hyperkalaemia. — *KUHS Jan 2025 P-IV*

4. Describe about treatment of acute life-threatening electrolyte imbalances in ICU. — *KUHS Jun 2024 P-I*

5. **b)** Discuss ECG findings and treatment for hypercalcemia associated with malignancy in emergency department. [5] — *DNB Oct 2023 P-I*

6. **a)** Potassium homeostasis in body. [4] **b)** Identification and management of clinically significant hypokalemia. [6] — *DNB Apr 2023 P-I*

7. **a)** Physiology of potassium homeostasis. [2] **b)** Etiology of hyperkaelmia. [3] — *DNB Dec 2022 P-I*

8. **b)** Discuss approach to hypercalcemia in emergency department. [5] — *DNB Jun 2022 P-III*

9. ECG changes and management of hyperkalaemia. — *KUHS May 2021 P-I*

10. **a)** Calcium hemostasis. [3] **b)** Causes of hypocalcemia. [2] **c)** Clinical features of hypocalcemia. [3] **d)** Treatment of hypocalcemia. [2] — *DNB Jun 2020 P-I*

11. **c)** Describe the physiology and pathophysiology of potassium homeostasis. [3] — *DNB Dec 2019 P-I*


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12. **c)** Briefly discuss the clinical features and management of hypercalcemia. [2] — *DNB Dec 2019 P-III*
13. Role of calcium (Ca 2+) ion in human body. Describe the causes and clinical features of hypocalcaemia. Describe the emergency management of hypocalcaemia. — *KUHS Apr 2019 P-I*
14. **b)** ECG changes of hyperkalaemia. [2] **c)** Management of hyperkalaemia in the Emergency Department. [2] — *DNB Dec 2016 P-III*
15. Hyperkalemia — *KUHS Jun 2015 P-I*

## 8.5 Acid–base disorders and ABG *(15 papers)*

1. **Essay [20 marks]** Discuss the principles of acid base disorders. Add a note on its diagnostic strategies. Mention the causes of high anion gap metabolic acidosis. — *KUHS Jul 2023 P-I*
2. **b)** Describe the compensatory mechanisms in metabolic alkalosis. [5] — *DNB Dec 2025 P-I*
3. **a)** Metabolic acidosis. [5] — *DNB Jun 2025 P-I*
4. **b)** Classify and describe the pathophysiology of lactic acidosis. [5] — *DNB Jun 2022 P-I*
5. **a)** Describe the buffer systems, respiratory and renal regulations of acid-base balance. [5] — *DNB Jun 2022 P-I*
6. **a)** The role of kidney in acid base maintenance. [5] — *DNB Dec 2021 P-I*
7. **b)** Evaluation and management of metabolic alkalosis. [5] — *DNB Dec 2021 P-III*
8. **b)** Etiopathogenesis of metabolic alkalosis. [4] **c)** Strong ion difference. [3] — *DNB Jun 2021 P-I*
9. **a)** B uffer systems, respiratory and renal regulations of acid-base balance. [4] **b)** Describe the difference between arterial blood gas and venous blood gas. [4] **c)** Acid-base disorders in trauma. [2] — *DNB Dec 2020 P-I*
10. **b)** Describe the approach to diagnosis of mixed acid base disorder from ABG analysis. [3] — *DNB Dec 2019 P-I*
11. **b)** Bicarbonate therapy – indications and complications. [2] — *DNB Dec 2019 P-III*
12. **a)** Describe delta gap and its clinical implications. [3] **b)** Metabolic alkalosis – causes, clinical presentations and management. [3] **d)** Briefly discuss the clinical importance of osmolal gap for emergency physician. [2] — *DNB Dec 2019 P-III*
13. Wide anion gap metabolic acidosis — *KUHS Oct 2018 P-I*
14. **a)** Hen derson-Hasselba lch equation. [1] **b)** Kassirer-Bleich equation. [1] **c)** Pathophysiology of respiratory acidosis. [4] **d)** Adaptation in chronic respiratory acidosis. [4] — *DNB Jun 2018 P-I*
15. **a)** Regulation of acid-base balance by kidneys [4] **b)** Normal anion metabolic acidosis [2] **c)** High anion gap metabolic acidosis. [4] — *DNB Dec 2017 P-I*
16. **a)** How do lungs regulate acid base balance? [2] **b)** Pathophysiology of metabolic alkalosis. [4] **c)** What are the common causes of metabolic alkalosis? [4] — *DNB Jun 2017 P-I*
17. **a)** Kassirer-Bleich equation. [2] **b)** How does the kidney regulate acid-base balance? [3] **c)** Define anion gap and mention its clinical use. [2] **d)** Enumerate cause of metabolic acidosis. [3] — *DNB Dec 2016 P-I*


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# 9. Infectious Disease Emergencies (61 questions)

## ★ Most-asked topics in this chapter

- Tetanus, rabies, COVID-19 and other infections — ***asked in 28 papers***
- Tropical fevers – dengue, malaria, leptospirosis, scrub typhus — ***asked in 12 papers***
- HIV, needle-stick injury and post-exposure prophylaxis — ***asked in 12 papers***

## 9.1 Tropical fevers – dengue, malaria, leptospirosis, scrub typhus *(12 papers)*

1. **Long essay [15 marks]** Dengue fever: Severity classification, pathophysiology, differential diagnosis, laboratory evaluation and management. — *TNMGR Jul 2023 P-II*
2. Cerebral malaria — *KUHS Jan 2025 P-II*
3. Enumerate complications of falcip arum malaria. Describe about clinical features and management of a case of algid malaria. — *KUHS Jun 2024 P-II*
4. **b)** Laboratory diagnosis of malaria. [4] — *DNB Apr 2023 P-III*
5. **a)** Discuss and draw life cycle of Plasmodium vivax. [6] **b)** How will you diagnose Plasmodium vivax and Plasmodium falciparum malaria? [4] — *DNB Dec 2022 P-I*
6. **a)** Etiology and management of acute febrile illness in ED. [5] — *DNB Dec 2021 P-III*
7. Dengue haemorrhagic fever. — *KUHS May 2021 P-II*
8. A 27-year-old male presents to the ER with a high grade fever, headache and retro-orbital pain and joint pains since 2 days. He has a heart rate of 102/min, BP 100/76 mmHg and SpO 2 96% on room air. He also complains of nausea and abdominal pain. You suspect dengue. Discuss: **a)** Phases in dengue. [2] **b)** Severe dengue. [2] **c)** Laboratory investigations in dengue. [2] **d)** Management of the above patient in the ER. [4] — *DNB Dec 2020 P-III*
9. A 22-year-old male presented with fever and jaundice of five days duration. Clinical examination shows moderate jaundice and splenic enlargement. **a)** Enumerate differential diagnosis of fever with jaundice? [2] **b)** What are the various forms of complicated malaria? [3] **c)** How will you confirm diagnosis of malaria? [2] **d)** ED management of the present case if he was found to have malaria. [3] — *DNB Jun 2018 P-III*
10. A young male presents to the emergency with fever and "Purpuric rash". **a)** Enumerate causes. [2] **b)** "Warning signs" in dengue fever. [3] **c)** How will you treat a patient with Dengue shock syndrome-Grade IV (or severe dengue with shock)? [5] — *DNB Jun 2017 P-III*
11. Viral haemorrhagic fevers. — *KUHS May 2017 P-II*
12. Complicated malaria — *KUHS Jun 2016 P-II*

## 9.2 HIV, needle-stick injury and post-exposure prophylaxis *(12 papers)*

1. How do patients with HIV infection present to ED. How do you diagnose and manage. — *KUHS Nov 2025 P-II*
2. Step to be taken when a cleaning staff approaches with history of needle stick injury — *KUHS Nov 2025 P-IV*
3. Post exposure prophylaxis. — *KUHS Jul 2023 P-IV*
4. Discuss the recognition and outline the treatment of: **a)** Needle stick injury. [5] — *DNB Apr 2023 P-III*
5. **b)** Management of needle stick injury in a Health care worker in ED. [5] — *DNB Dec 2021 P-III*
6. How to manage a colleague of yours who had a needle stick injury from a suspected case of HIV and HBsAg. — *KUHS Jun 2020 P-II*
7. **c)** Post-exposure prophylaxis for needle stick injury from HIV positive patient for emergency care providers. [3] — *DNB Dec 2019 P-III*
8. Approach to respiratory infections in retroviral positive patients. — *KUHS Apr 2019 P-II*


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9. You are ED in-charge. One of your doctor staff has needle stick injury while he was doing invasive lifesaving procedures on an HIV and HBsAg positive victim in ED. How will you guide him? **a)** Immediate actions to be taken. [2] **b)** Initial base line investigations to be done. [2] **c)** Which medicines/injections you would like to give him immediately? [4] **d)** Describe how to follow him up. [2] — *DNB Dec 2018 P-I*

10. I Neurological complications of HIV & AIDS — *KUHS May 2017 P-II*

11. Opportunistic infections in HIV patients — *KUHS Jun 2016 P-II*

12. Pulmonary complications in HIV — *KUHS Jun 2015 P-II*

## 9.3 Tetanus, rabies, COVID-19 and other infections *(28 papers)*

1. **Essay [20 marks]** Approach to adult and paediatric patient presenting in ED with fever and rash — *KUHS Jul 2023 P-IV*

2. **b)** Post-injury tetanus prophylaxis. [4] — *DNB Jun 2025 P-I*

3. **b)** Discuss clinical features and management of herpes zoster. [4] — *DNB May 2024 P-III*

4. **a)** Describe clinical features, diagnosis and treatment of herpes simplex virus infection. [5] — *DNB Oct 2023 P-III*

5. Discuss the recognition and outline the treatment of: **b)** Tetanus. [5] — *DNB Apr 2023 P-III*

6. **b)** Discuss management of a patient with suspected COVID-19 having a respiratory rate of 32/minute and oxygen saturation of 88% on room air. [5] — *DNB Dec 2022 P-IV*

7. **a)** Clinical features of monkeypox. [3] — *DNB Dec 2022 P-III*

8. Discuss the pathogenesis, clinical features, differential diagnosis and treatment of tetanus in adults. — *DNB Dec 2022 P-III*

9. Mucormycosis — *KUHS May 2022 P-II*

10. Discuss etiology, diagnosis and management of Rhinocerebral mucormycosis. — *KUHS May 2022 P-IV*

11. Discuss clinical features, diagnosis and treatment of Herpes Zoster infection. — *KUHS May 2022 P-IV*

12. **a)** Immunological response in SARS CoV-2 infection. [5] — *DNB Dec 2021 P-I*

13. **b)** Drug therapy in a Covid patient, hypoxic and not hypoxic, at time of ED presentation. [5] — *DNB Dec 2021 P-III*

14. **b)** Interim guidelines for CPR in COVID-19 suspects. [5] — *DNB Dec 2021 P-IV*

15. **a)** Covid 19 Vaccines. [5] **b)** Newer covid variants. [5] — *DNB Dec 2021 P-IV*

16. **a)** Management of long covid syndrome. [5] — *DNB Dec 2021 P-IV*

17. **a)** Describe the pathophysiology of COVID-19 infection in humans. [4] **b)** Awake proning in ARDS. [2] **c)** Single breath count in Emergency care. [1] **d)** How will you prepare your Emergency Department triage during the pandemic of COVID-19? [3] — *DNB Jun 2020 P-I*

18. **a)** Pathogenesis of rabies. [3] **b)** Clinical features of rabies. [3] **c)** Post-exposure prophylaxis after dog-bite. [4] — *DNB Jun 2020 P-III*

19. **a)** Use of POCUS in COVID-19 infections. [5] **b)** Hydroxychloroquine use and COVID-19. [3] **c)** Dexamethasone in COVID-19. [2] — *DNB Jun 2020 P-IV*

20. **b)** Home isolation of a COVID-19 positive patient. [5] — *DNB Jun 2020 P-IV*

21. **a)** Pathogenesis of tetanus. [3] **b)** Clinical features of tetanus. [2] **c)** Treatment of tetanus. [3] **d)** Tetanus immunization. [2] — *DNB Jun 2019 P-III*

22. Diagnosis and management of H1N1 suspected patient in your ED. — *KUHS Apr 2019 P-II*

23. **a)** Transmission, clinical presentation and management of Nipah virus. [5] **b)** Transmission, clinical presentation and management of Zika virus. [5] — *DNB Dec 2018 P-IV*

24. Diagnosis and treatment of herpes — *KUHS Oct 2018 P-II*


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**25.** A 12-year old child presented to your ED with fever and severe headache. The attending physician suspected him to be suffering from Nipah virus infection. Discuss the following with regard to Nipah virus infection: **a)** History and epidemiology [3] **b)** Transmission of infection [2] **c)** Clinical features [3] **d)** Management [2] *— DNB Jun 2018 P-IV*

**26.** A patient has come with suspected tetanus. Discuss the following: **a)** Pathophysiology of tetanus [3] **b)** Control of muscle spasms [3] **c)** Control of autonomic dysfunction [2] **d)** Immunotherapy and immunization [2] *— DNB Dec 2017 P-III*

**27.** A 7-year school-going boy came to ED with one day fever of 102.6 ° F fever and cold. Several cases of H1N1 influenza infection were reported during that period. a. What standard precautions would you take in ED while examining a patient with suspected influenza infection? b. Define categories of patients with suspected H1N1 infection. c. Discuss briefly the drugs used to treat a case of influenza infection. d. How will you manage this child? *— DNB Dec 2017 P-IV*

**28.** **a)** Epidemiology of recent outbreak of Zika virus infection [3] **b)** Clinical features of Zika infection [3] **c)** Complications of Zika infection [3] **d)** Recent observation about transmission of Zika virus through sexual contact [1] *— DNB Dec 2017 P-IV*

**29.** A young child is admitted in the emergency with URI & respiratory distress. You notice a "whoop": **a)** What are the clinical features of this disease in adults? [3] **b)** Treatment of B.pertussis infection. [3] **c)** Role of vaccination. [4] *— DNB Jun 2017 P-IV*

**30.** Acute management of tetanus. *— KUHS May 2017 P-I*

**31.** **a)** What are the diseases produced by various species of Clostridium? [3] **b)** Pathogenesis of tetanus. [4] **c)** Tetanus prophylaxis following an injury. [3] *— DNB Dec 2016 P-I*

**32.** Varicella zoster *— KUHS Jun 2016 P-IV*

**33.** **[7 marks]** Rabies prophylaxis regimens. *— TNMGR Oct 2025 P-II*

**34.** **[7 marks]** Nipah virus. *— TNMGR Dec 2024 P-II*

## 9.4 Antimicrobials and infection control *(3 papers)*

**1.** **a)** Classify various antimicrobial agents. [4] **b)** Mechanism of action of penicillins. [2] **c)** Adverse effects of penicillins. [2] **d)** What are the adverse effects of aminoglycosides? [2] *— DNB Dec 2016 P-I*

**2.** Any three resistant microorganisms in your intensive care unit and add a note on newer antibiotics *— KUHS Jun 2015 P-I*

**3.** Methicillin-resistant staphylococcus aureus *— KUHS Jun 2015 P-II*

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# 10. Toxicology (62 questions)

## ★ Most-asked topics in this chapter

- Drug overdose – paracetamol, TCA, salicylates, sedatives, cardiac drugs — ***asked in 18 papers***
- Toxic alcohols, corrosives, hydrocarbons and toxic gases — ***asked in 16 papers***
- Toxidromes, NMS, serotonin syndrome and other poisons — ***asked in 11 papers***
- General approach, decontamination and antidotes — ***asked in 9 papers***
- Organophosphates, paraquat and other pesticides — ***asked in 9 papers***

## 10.1 General approach, decontamination and antidotes *(9 papers)*

1. Describe in detail about ocular decontamination, gastric decontamination, bowel irrigation in cases of suspected poisoning. — ***KUHS Jun 2024 P-II · KUHS Jun 2020 P-II [2×]***
2. Chelation therapy — *KUHS Jul 2023 P-I*
3. **b)** High-dose insulin therapy in acute poisoning. [3] **c)** Intravenous lipid emulsion. [4] — *DNB Jun 2020 P-I*
4. **a)** Basic principles of decontamination in cases of poisoning. [3] **b)** Ocular decontamination. [3] **c)** Gastric decontamination. [4] — *DNB Dec 2018 P-I*
5. Gastrointestinal decontamination in poisoning — *KUHS Oct 2018 P-I*
6. Fab fragments — *KUHS Apr 2018 P-II*
7. **a)** Role of gastric lavage in patients with poisoning. [3] **b)** How multiple doses of activated charcoal help in patients with acute poisoning? [3] **c)** How will you perform whole bowel irrigation in patient acute poisoning? [4] — *DNB Jun 2017 P-III*
8. Dialysable poisons — *KUHS Jun 2015 P-IV*

## 10.2 Organophosphates, paraquat and other pesticides *(9 papers)*

1. **Long essay [15 marks]** Organophosphorus poisoning: clinical presentation, laboratory tests, treatment protocol and complications. — *TNMGR Dec 2024 P-II*
2. **b)** Discuss the treatment modalities for paraquat poisoning. [5] — *DNB Dec 2025 P-III*
3. **b)** Management of organophosphorus insecticide poisoning. [5] — *DNB Jun 2025 P-III*
4. How is organophosphate (OP) poisoning different from carbamates. What are the clinical features and role of pralidoxime in a patient with OP poisoning presenting to ED. — *KUHS Jul 2023 P-II*
5. **a)** Patho-physiology and management of Paraquet poisioning. [5] — *DNB Dec 2021 P-III*
6. **c)** Organophosphorus poisoning – drug therapies for treatment. [3] — *DNB Dec 2019 P-III*
7. Management of organophosphorus poisoning and add a note on organophosphorus compounds available in our country. — *KUHS Apr 2019 P-II*
8. **a)** Clinical features of orgonophosphorus poisoning. [3] **b)** Outline its ED management. [4] — *DNB Dec 2016 P-III*
9. OPC field sprayer inhalation — *KUHS Jun 2015 P-IV*

## 10.3 Drug overdose – paracetamol, TCA, salicylates, sedatives, cardiac drugs *(18 papers)*

1. **Essay [20 marks]** Discuss the pathophysiology, clinical features, diagnosis and treatment of cyclic antidepressant toxicity. — *KUHS Jun 2015 P-II*
2. **a)** Beta-blocker overdose. [5] — ***TNMGR Oct 2025 P-II · DNB Oct 2024 P-III [2×]***
3. **a)** Explain the acid-base changes in salicylate poisoning. [5] — *DNB Dec 2025 P-I*
4. Discuss clinical features, diagnosis, and treatment of cyclic anti-depressant toxicity — *KUHS Jan 2025 P-II*


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5. **a)** Precipitating factors for lithium toxicity. [2] **b)** Clinical features of lithium toxicity. [3] **c)** Management of a patient with lithium toxicity. [5] — *DNB Oct 2024 P-III*
6. **a)** Describe lithium toxicity. [6] — *DNB May 2024 P-III*
7. **b)** Discuss clinical severity, diagnosis and treatment of salicylate toxicity in adults. [5] — *DNB Oct 2023 P-III*
8. **a)** Describe the pathogenesis of paracetamol toxicity. [3] **b)** How will you assess risk of hepatotoxicity after an acute ingestion of paracetamol? [2] **c)** Discuss the management of paracetamol toxicity in the emergency department. [5] — *DNB Dec 2022 P-III*
9. **b)** Discuss calcium channel blocker versus beta blocker toxicity. [5] — *DNB Jun 2022 P-III*
10. Diseases management of paracetamol poisoning — *KUHS May 2022 P-II*
11. Describe about clinical features, laboratory investigations and management of lithium toxicity. — *KUHS May 2021 P-IV*
12. An 18-year-old female presents to the ER with history of ingestion of 20 tablets of paracetamol (each of 500 mg) about 3 hours back. She is hemodynamically stable and has no comorbidities. **a)** What are the minimal toxic doses of paracetamol in adults and children? [1] **b)** Pathophysiology of paracetamol toxicity. [1] **c)** Signs and symptoms of paracetamol overdose. [2] **d)** Investigations for the above patient in the ER. [2] **e)** Treatment of the above patient in the ER. [4] — *DNB Dec 2020 P-III*
13. **a)** Tricyclic antidepressant poisoning. [4] — *DNB Dec 2019 P-III*
14. Metabolic changes in acute salicylate poisoning — *KUHS Apr 2019 P-I*
15. Clinical features, laboratory investigations and management of acute lithium toxicity cases. — *DNB Dec 2018 P-III*
16. **a)** Clinical features of tricyclic antidepressant overdose. [4] **b)** What are the ECG changes in a patient with tricyclic antidepressant overdose? [2] **c)** How do you manage a patient with tricyclic antidepressant overdose? [4] — *DNB Jun 2018 P-III*
17. **a)** Factors precipitating lithium toxicity [3] **b)** Toxic effects of chronic lithium poisoning [4] **c)** Management of chronic lithium poisoning [3] — *DNB Dec 2017 P-III*
18. B-blocker toxicity — *KUHS May 2017 P-III*
19. Diagnosis and treatment of digoxin toxicity — *KUHS Jun 2015 P-II*

## 10.4 Toxic alcohols, corrosives, hydrocarbons and toxic gases *(16 papers)*

1. Methaemoglobinemia — ***TNMGR Jul 2023 P-II · KUHS Jun 2015 P-I [2×]***
2. **a)** Describe the clinical features and treatment of cyanide poisoning. [5] **b)** Discuss the role of hydroxocobalamin in treatment of cyanide poisoning. [5] — *DNB Dec 2025 P-III*
3. Discuss the pathophysiology, clinical features diagnosis and management of acute carbon monoxide poisoning. — *KUHS Nov 2025 P-II*
4. **a)** Management of kerosene poisoning. [5] **b)** Discuss clinical features, diagnostic evaluation and treatment of acid ingestion. [5] — *DNB Jun 2025 P-III*
5. **a)** Enumerate high risk chemicals that compromise oxygen delivery outlining their mechanism of action. [4] — *DNB Jun 2025 P-I*
6. **b)** Discuss the clinical features, differential diagnosis and management of Methanol poisoning. [5] — *DNB Oct 2023 P-III*
7. **b)** Pathophysiology and treatment of Hydrofluoric acid chemical burns. [5] — *DNB Oct 2023 P-II*
8. Management of methanol poisoning with the first victim reporting to your ED. — *KUHS May 2021 P-II*
9. **a)** Pathogenesis of methanol poisoning. [3] **b)** Clinical features of methanol poisoning. [4] **c)** Management of methanol poisoning. [3] — *DNB Jun 2020 P-III*
10. Methanol poisoning: presentation, diagnosis and ED management of cases of methanol poisoning. — *KUHS Jun 2020 P-II*


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11. **a)** Sources of carbon monoxide poisoning. [2] **b)** Pathophysiology of carbon monoxide poisoning. [3] **c)** Diagnosis of carbon monoxide poisoning. [3] **d)** Role of hyperbaric oxygen in carbon monoxide poisoning. [2] — *DNB Jun 2019 P-III*
12. Pathophysiology of carbon monoxide poisoning — *KUHS Oct 2018 P-I*
13. Methemoglobinemias — *KUHS Apr 2018 P-IV*
14. Cyanide poisoning — *KUHS Jun 2016 P-IV*
15. 43 years old watchman was found unconscious in a generator room. Enumerate the possible causes and management in detail. — *KUHS Jun 2016 P-IV*
16. **[7 marks]** Methanol poisoning. — *TNMGR Oct 2025 P-II*

## 10.5 Toxidromes, NMS, serotonin syndrome and other poisons *(11 papers)*

1. Neuroleptic malignant syndrome — ***TNMGR Dec 2024 P-II · KUHS May 2017 P-II [2×]***
2. **a)** Explain the pathophysiology and management of serotonin syndrome. [5] **b)** Differentiate it from neuroleptic malignant syndrome. [5] — *DNB Dec 2025 P-III*
3. **b)** Discuss clinical features and treatment of Oliander poisoning. [5] — *DNB Jun 2025 P-III*
4. **b)** Discuss neuroleptic malignant syndrome versus serotonin syndrome. [5] — *DNB May 2024 P-III*
5. **a)** Describe various toxidromes presenting to ED. [5] — *DNB Dec 2021 P-III*
6. **b)** Describe differences between neuroleptic malignant syndrome and serotonin syndrome. [3] — *DNB Dec 2019 P-III*
7. **b)** Malignant hyperthermia – clinical features and treatment pearls. [3] — *DNB Dec 2019 P-III*
8. **a)** Clinical features of neuroleptic malignant syndrome (NMS). [3] **b)** Describe any one diagnostic criteria for NMS. [2] **c)** How do you differentiate between NMS and serotonin syndrome? [2] **d)** Treatment of a case with NMS. [3] — *DNB Jun 2018 P-III*
9. **a)** What are toxidromes? [2] **b)** Enumerate toxidromes. [3] **c)** Features of various toxidromes. [5] — *DNB Dec 2016 P-III*
10. **[7 marks]** Acute dystonic reactions. — ***TNMGR Oct 2025 P-II · TNMGR Jul 2023 P-II [2×]***

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# 11. Envenomation and Environmental Emergencies (66 questions)

## ★ Most-asked topics in this chapter

- Heat illness, hypothermia and cold injuries — ***asked in 24 papers***
- Altitude, diving, drowning, electrical and radiation injuries — ***asked in 23 papers***
- Snake bite — ***asked in 11 papers***
- Animal bites, scorpion and insect stings — ***asked in 8 papers***

## 11.1 Snake bite *(11 papers)*

1. **Essay [20 marks]** Discuss on the etiopathology, clinical features, assessment and management of snake bite enven omation. — *KUHS Nov 2025 P-II*
2. **Essay [20 marks]** Discuss approach to snake bite. Discuss latest snake bite protocols. — *KUHS Apr 2019 P-II*
3. Describe snake bite case presentation, evaluation and management — ***KUHS Jun 2024 P-II · KUHS Jun 2020 P-II [2×]***
4. **b)** Antisnake venom. [5] — ***DNB Apr 2023 P-I · KUHS Apr 2018 P-I [2×]***
5. **a)** Discuss the clinical features and management of viper bite. [5] — *DNB May 2024 P-III*
6. **b)** Management of snake bite poisoning. [5] — *DNB Oct 2023 P-III*
7. How do you assess and manage a patient presenting to ED with suspected snake bite in the left foot. — *KUHS Jul 2023 P-II*
8. **a)** Enumerate poisonous snake bites in India. [2] **b)** Clinical presentation of a case of poisonous snake bite. [3] **c)** Management of such cases of snake bites. [5] — *DNB Dec 2018 P-III*
9. **b)** How will you manage a patient of 'Krait bite'? [4] **c)** Complications associated with antisnake venom administration. [3] — *DNB Jun 2017 P-III*

## 11.2 Animal bites, scorpion and insect stings *(8 papers)*

1. **b)** Treatment of bee sting. [2] — *DNB Jun 2025 P-III*
2. **b)** Management of dog bite. [5] — *DNB Jun 2025 P-I*
3. **b)** Indian scorpion sting. [5] — *DNB Oct 2024 P-III*
4. **a)** Clinical presentation and management of a patient with Wasp sting. [5] — *DNB Apr 2023 P-III*
5. **a)** Describe the clinical presentation, pathophysiology and management of scorpion bite. [5] — *DNB Jun 2022 P-III*
6. Management of scorpion envenomation — *KUHS May 2022 P-II*
7. **a)** Approach to a patient with monkey bite in ED. [5] — *DNB Dec 2021 P-III*
8. **a)** Briefly describe Indian scorpions of medical importance and their venoms. [2] **b)** Clinical features of a sting by venomous scorpion. [4] **c)** Management of a patient stung by a venomous scorpion. [4] — *DNB Jun 2021 P-III*

## 11.3 Heat illness, hypothermia and cold injuries *(24 papers)*

1. Heat stroke — ***KUHS Apr 2018 P-II · KUHS Jun 2016 P-II [2×]***
2. Discuss the pathophysiology, clinical features and treatment of frostbite. — *KUHS Nov 2025 P-II*
3. **a)** Differential diagnosis and treatment of heat stroke in emergency room. [5] — *DNB Jun 2025 P-III*
4. Discuss heat stroke — *KUHS Jan 2025 P-II*
5. Enumerate risk factors precipitating frostbite. How do you manage victims of frostbite in ED. — *KUHS Jun 2024 P-II*

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6. Indication for initiating CPR in a 45 year old victim found on the balcony with suspected hypothermia. Recommendations of CPR and Ventricular fibrillation in this setting. — *KUHS Jul 2023 P-II*

7. A young female is brought to the ER in unconsious state. She had spent last few hours in hot desert on official trip. She is also known to be taking oral contraceptives. **a)** Enumerate your line of assessment and investigations linked to the possible differential diagnosis. The interpretation of invesigations need to be mentioned. [6] **b)** How will you stabilize and dispose this patient from ED? [4] — *DNB Apr 2023 P-III*

8. **a)** Temperature regulation by hypothalamus. [5] **b)** Models of heat injury. [5] — *DNB Apr 2023 P-I*

9. **a)** Discuss local injuries due to exposure to cold temperature. [4] **b)** Pathophysiology and management of accidental hypothermia. [6] — *DNB Dec 2022 P-III*

10. **b)** Discuss types and management of heat related illnesses in adults. [5] — *DNB Jun 2022 P-III*

11. **a)** Physiology of temperature regulation to cold exposure. [3] **b)** Pathophysiological aspects of hypothermia. [4] — *DNB Jun 2021 P-I*

12. **a)** Physiology of temperature regulation. [4] **b)** Enumerate the methods of measuring the body temperature. [2] **c)** Management of heat stroke. [4] — *DNB Dec 2020 P-I*

13. **a)** Physiology of temperature regulation. [4] **b)** Heat stroke. [6] — *DNB Jun 2020 P-I*

14. Enumerate heat emergencies, clinical presentation and treatment ED care. — *KUHS Jun 2020 P-II*

15. **c)** Elaborate on the pathophysiology of hypothermia. Enumerate the causes of hypothermia in adults. [4] — *DNB Dec 2019 P-I*

16. **a)** Physiology of temperature regulation in human. [2] **b)** Enumerate heat emergencies. [2] **c)** Write about its clinical presentation. [3] **d)** Write about management of such cases in emergency department. [3] — *DNB Dec 2018 P-I*

17. Diagnosis and treatment of heat stroke — *KUHS Oct 2018 P-II*

18. **a)** Enumerate v arious cold injuries. [2] **b)** Enumerate risk factors precipitating frostbite. [2] **c)** How do you classify frostbite injuries? [3] **d)** How do you manage victims of frostbite in ED? [3] — *DNB Jun 2018 P-II*

19. **a)** Regulation of body temperature [3] **b)** Cooling techniques in heat stroke [4] **c)** Complications of heat stroke [3] — *DNB Dec 2017 P-III*

20. **a)** Enumerate "cold" related emergencies. [3] **b)** Clinical presentation of hypothermia. [3] **c)** Management of accidental hypothermia. [4] — *DNB Jun 2017 P-III*

21. Accidental hypothermia — *KUHS May 2017 P-II*

22. **a)** Enumerate heat emergencies. [2] **b)** Clinical presentation of heat stroke. [4] **c)** Management of heat stroke in the Emergency Department. [4] — *DNB Dec 2016 P-III*

23. Rewarming techniques in hypothermia — *KUHS Jun 2015 P-II*

## 11.4 Altitude, diving, drowning, electrical and radiation injuries *(23 papers)*

1. **Long essay [15 marks]** **a)** Elaborate various diving related injuries. **b)** Pathophysiology and classification of Decompression sickness. **c)** Evaluation and management in ED. — *TNMGR Dec 2024 P-IV*

2. **Essay [20 marks]** Describe the pathophysiology of high altitude illness. Elaborate on the clinical presentation of high altitude pulmonary oedema. How would you manage this patient. — *KUHS Apr 2018 P-II*

3. Decompression sickness — ***TNMGR Oct 2025 P-II · KUHS May 2017 P-IV [2×]***

4. Discuss the different mechanism organs affected and management of 28-year-old male presenting to ED with a hand to hand pathway of electrical burn. — *KUHS Nov 2025 P-II*

5. **b)** Discuss the different types of radiation and commonly used radiation monitoring equipment. [6] — *DNB Jun 2025 P-I*


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6. **a)** What is hyperbaric oxygen therapy? How hyperbaric oxygen therapy is delivered? [5] **b)** What are the indications of hyperbaric oxygen therapy? [5] — *DNB Oct 2023 P-IV*
7. **a)** Discuss the clinical features, diagnostic criteria and management of High Altitude Pulmonary Oedema. [5] — *DNB Oct 2023 P-III*
8. **a)** Acute radiation syndrome. [5] — *DNB Oct 2023 P-I*
9. **b)** Discuss drowning event algorithm. [5] — *DNB Apr 2023 P-III*
10. **a)** Decompression sickness in deep sea divers. [5] — *DNB Apr 2023 P-I*
11. **a)** DIscuss acute radiation syndrome. [5] — *DNB Dec 2022 P-IV*
12. **b)** Physics of radiation. [4] — *DNB Dec 2022 P-I*
13. **b)** Clinical presentation and investigations of high altitude cerebral edema. [5] — *DNB Dec 2021 P-I*
14. **a)** Pathophysiology of acclimatization. [4] **b)** What is the management of acute mountain sickness? [3] **c)** Caisson sickness. [3] — *DNB Dec 2020 P-I*
15. A 42-year-old male was carrying out repair works on an electric pole when he suffered an electrical injury. He presented to the ER with burns on anterior abdominal wall. **a)** Clinical features of electrical injury. [5] **b)** ED management of a patient with electrical injuries. [5] — *DNB Dec 2020 P-III*
16. **b)** Clinical utility of hyperbaric oxygen. — *DNB Jun 2020 P-III*
17. **a)** Acute mountain sickness. [3] **b)** High-altitude pulmonary edema. [4] **c)** High-altitude cerebral edema. [3] — *DNB Jun 2020 P-III*
18. Clinical features and treatment of decompression sickness — *KUHS Oct 2018 P-II*
19. **a)** Fundamentals of radiation physics. [3] **b)** Biologic effects of ionizing radiation. [3] **c)** Clinical features of acute radiation syndrome. [4] — *DNB Jun 2018 P-I*
20. **a)** Physiology of high altitude acclim atization. [5] **b)** List various high altitude illnesses. [2] **c)** Prevention of high-altitude illnesses. [3] — *DNB Jun 2018 P-I*
21. **a)** Various gas laws relevant to hyperbaric oxygen therapy. [3] **b)** Physiological effects of hyperbaric oxygen. [2] **c)** Enumerate indications of hyperbaric oxygen therapy. [2] **d)** Write a note on one of the definitive indications of hyperbaric oxygen. [3] — *DNB Jun 2018 P-I*
22. **a)** Enumerate various diving-related emergencies. [2] **b)** Pathophysiology of decompression sickness. [3] **c)** Clinical features of decompression sickness. [3] **d)** Classification of decompression sickness. [2] — *DNB Jun 2018 P-III*
23. Radiation accident protocol in ED — *KUHS Apr 2018 P-IV*
24. HBOT — *KUHS Apr 2018 P-IV*
25. **[7 marks]** Drowning. — *TNMGR Jul 2023 P-II*
26. **[7 marks]** Radiation injuries. — *TNMGR Jul 2023 P-IV*

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# 12. Trauma (133 questions)

## ★ Most-asked topics in this chapter

- Trauma systems, primary survey and haemorrhage control — ***asked in 28 papers***
- Spinal injury — ***asked in 20 papers***
- Head injury — ***asked in 19 papers***
- Chest trauma — ***asked in 17 papers***
- Maxillofacial, neck and eye trauma — ***asked in 12 papers***
- Burns and smoke inhalation — ***asked in 12 papers***
- Abdominal and pelvic trauma — ***asked in 11 papers***
- Trauma in pregnancy, elderly and children — ***asked in 7 papers***

## 12.1 Trauma systems, primary survey and haemorrhage control *(28 papers)*

1. **b)** Discuss the concept of hemostatic hypotensive resuscitation. [5] — *DNB Dec 2025 P-I*
2. **b)** Discuss complications of prolonged tourniquet application. [5] — *DNB Dec 2025 P-II*
3. **b)** Selective aortic arch perfusion. [5] — *DNB Jun 2025 P-IV*
4. **b)** Indications, technique and complications of REBOA (Resuscitative balloon occlusion of aorta). [5] — *DNB Oct 2024 P-IV*
5. **b)** Balanced resuscitation in trauma cases. [3] **c)** Damage control surgery in trauma cases. [3] — *DNB Oct 2024 P-I*
6. **a)** Indications and steps of Massive Transfusion Protocol (MTP). [5] — *DNB Oct 2023 P-IV*
7. **b)** Describe the fluid therapy and blood transfusion therapy for management of hemorrhagic shock in trauma patient. [5] — *DNB Oct 2023 P-II*
8. A young male is brought to the ER in an unconscious state. He has gurgling sounds, bleeding from the mouth, withdrawal reponse to pain and non recordable BP. **a)** Discuss the stepwise initial management of the patient. [5] — *DNB Apr 2023 P-II*
9. **b)** Massive transfusion protocol chart. [5] — *DNB Apr 2023 P-II*
10. A 65 year old patient non-helmeted presents to the emergency department with history of head on collision with a four-wheeler. On arrival he has noisy breathing and mouth was full of blood. His BP: 76/60 mmHg, pulse rate 112 with Saturation 76%. He is opening eyes to painful stimuli, moaning and with abnormal flexion: **a)** Describe the approach and management of the case. [5] **b)** Discuss the management of hemorrhagic shock in trauma. [5] — *DNB Jun 2022 P-II*
11. **b)** Describe the indication and procedure of REBOA. [5] — *DNB Jun 2022 P-II*
12. **b)** Discuss the acid-base disorders and coagulation derangement in trauma. [5] — *DNB Jun 2022 P-I*
13. **a)** Choice of fluid for resuscitating a trauma victim in ER based on recent trials. [5] — *DNB Dec 2021 P-IV*
14. A 35-year-old male, unrestrained driver with history of road traffic crash presents to emergency department with grade IV hemorrhagic shock. **a)** How will you manage this patient? [4] **b)** What are the key considerations of managing a pediatric, geriatric and pregnant patients with traumatic hemorrhagic shock? [6] — *DNB Jun 2021 P-II*
15. Describe about massive transfusion protocol in your ED — *KUHS Jun 2020 P-I*
16. **a)** Pathophysiology of hemorrhagic shock in trauma. [4] **b)** Permissive hypotension – indications and contraindications. [2] **c)** Classification of hemorrhagic shock in trauma. [2] **d)** ABC score for massive transfusion protocol. [2] — *DNB Dec 2019 P-I*
17. A 35-year-old male bike rider presents to emergency with history of head-on collision with a motor vehicle. He is drowsy and sonorous, responding with 'Aaah-Uggh' on painful stimuli and extensor response in lower limbs. Pulse 120/min, BP 80/60 mmHg and saturation 70%. On examination, his


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mouth is full of blood and breath sounds are not heard over left lung. **a)** How will you approach and manage the case? [5] — *DNB Dec 2019 P-II*

18. Describe the recent advances in assessment and management of trauma – **a)** Newer techniques, devices and agents for achieving hemostasis. [4] **b)** Results of CRASH-3 trial. [3] **c)** Chain of survival in trauma hemorrhagic shock. [3] — *DNB Dec 2019 P-IV*
19. **a)** Pathophysiology of coagulopathy observed in trauma victims. [3] **b)** Role of Thromboelastography in coagulopathy. [2] **c)** Damage control resuscitation. [5] — *DNB Jun 2019 P-I*
20. **a)** Use of REBOA in ED. [5] — *DNB Jun 2019 P-IV*
21. **b)** Recent updates in Advanced Trauma Life Support guidelines. [5] — *DNB Dec 2018 P-IV*
22. **a)** What are the key changes in recent 2018 ATLS guidelines compared to the previous ATLS guidelines? [6] **b)** Classify haemorrhagic shock as per 2018 ATLS guidelines [4] — *DNB Jun 2018 P-IV*
23. **b)** Revised trauma score. [5] — *DNB Jun 2017 P-IV*
24. **a)** List common causes of hemorrhagic shock in a male patient. [3] **b)** Role of tranexamic acid in a patient with trauma. [3] **c)** Complications of "massive transfusion" in trauma. [4] — *DNB Jun 2017 P-II*
25. A 35 year old male presents to the emergency department after a road traffic accident. The pre-hospital emergency technician noted a blood pressure of 70 mmg systolic. **a)** How will you manage his airway? [3] **b)** How will you evaluate his breathing during primary survey? [4] **c)** In a patient who is hypotensive due to trauma, what are the probable findings on sonography. [3] — *DNB Jun 2017 P-II*
26. Wound ballistics — *KUHS May 2017 P-III*
27. Damage control resuscitation — *KUHS May 2017 P-IV*
28. **a)** Hypotensive resuscitation in haemorrhagic shock. [4] **b)** Compare crystalloids and colloids for resuscitation. [3] **c)** What is Massive Transfusion Protocol? [3] — *DNB Dec 2016 P-II*
29. **[7 marks]** REBOA in ED. — *TNMGR Oct 2025 P-IV*
30. **[7 marks]** Massive hemorrhage protocol. — *TNMGR Dec 2024 P-III*
31. **[7 marks]** Massive transfusion protocol. — *TNMGR Jul 2023 P-III*

## 12.2 Head injury *(19 papers)*

1. **Essay [20 marks]** Draw labelled diagram of cerebral circulation. Explain cerebral autoregulation. Describe clinical features of raised ICP. Describe Glasgow coma scale and its clinical significance. — *KUHS Apr 2019 P-I*
2. **Essay [20 marks]** Discuss the blood supply to brain, auto regulation and add a note on intracranial pressure. Mention the emergency management of raised intracranial pressure in emergency room and the indication for surgical intervention. — *KUHS Jun 2016 P-I*
3. **a)** Cerebral autoregulation. [5] **b)** Discuss anticoagulation reversal treatment in patients with Traumatic Brain Injury (TBI) who are receiving anticoagulation or anti-platelet therapy. [5] — *DNB Jun 2025 P-II*
4. Discuss the clinical spectrum, diagnostic radiography and management of Traumatic Brain Injury (TBI). — *KUHS Jan 2025 P-III*
5. **a)** Describe primary and secondary brain injuries. [3] **b)** Describe various brain herniation syndromes. [4] **c)** Describe symptoms and signs of mild brain injury. [3] — *DNB Oct 2024 P-II*
6. **a)** Describe the pathophysiology of traumatic brain injury. [5] **b)** Describe the clinical targets of management of traumatic brain injury. [5] — *DNB May 2024 P-I*
7. **b)** Canadian CT scan rule versus New Orleans criteria. [5] — *DNB May 2024 P-II*
8. **a)** Role of mannitol and hypertonic saline in patients with raised intracranial pressure. [3] — *DNB May 2024 P-IV*
9. **a)** Pathophysiology of cerebral blood flow. [5] **b)** Discuss emergency department treatment of Traumatic Brain injury. [5] — *DNB Oct 2023 P-II*


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10. **a)** Physiology of blood flow in the brain. [5] **b)** Measurement of intracranial pressure. [5] — *DNB Apr 2023 P-I*
11. **b)** CRASH-3 trial. [4] — *DNB Dec 2022 P-IV*
12. **a)** Discuss secondary brain injury following traumatic head injury. How will you reduce chances of secondary brain injury? [6] — *DNB Dec 2022 P-II*
13. A 65-year-old non-helmeted, two wheeler rider with road traffic crash presents to the emergency with noisy breathing, moaning and groaning, and withdrawal to painful stimuli. **a)** Discuss the management with important pearls and pitfalls in this case? [4] **b)** Describe the clinical and radiologic features of raised intracranial pressure. [2] **c)** New Orleans versus Canadian CT head rule. [4] — *DNB Jun 2021 P-II*
14. **c)** Management of mild traumatic brain injury in the ER. [4] — *DNB Dec 2020 P-II*
15. **a)** Describe FOUR score in comparison to GCS score. [3] **d)** Cushing's reflex. [2] — *DNB Dec 2019 P-II*
16. **c)** Assessment and ED management of severe traumatic brain injury. [4] — *DNB Dec 2019 P-II*
17. Diffuse a xonal injury. — *KUHS Apr 2019 P-III*
18. A 46-year-old patient was brought to ED after 1 hour of accident. On presentation, he is talking incomprehensible words. His vitals are RR: 32 /min, SpO2-92 % on room air, PR-118/min and BP-88 /60 mmHg. He is opening his eyes to painful stimuli. He withdraws right upper and lower limb on painful stimuli with no movement of the left side. Right pupil is fixed and dilated. **a)** What is his Glasgow Coma Scale? [2] **b)** Describe stepwise approach to the patient in ED. [4] **c)** How will you prevent further brain injuries? [4] — *DNB Dec 2018 P-II*
19. Pathophysiology of severe head injury — *KUHS Apr 2018 P-III*
20. A 32 year old is brought to the ED one hour after an accident. On arrival, he is talking in incomprehensible words. His vitals are: RR- 32/min and SpO2 – 92% on room air, PR- 118/min, and BP- 88/60mmHg. He is opening his eyes to painful stimulus. He withdraws right upper and lower extremities on painful stimulus with no movement of left side. The right pupil is fixed and dilated. **a)** What is his Glasgow Coma Scale? [2] **b)** Describe step-wise approach to the patient in the ED. [5] **c)** How will you prevent further deterioration in brain injury? [3] — *DNB Dec 2017 P-II*

## 12.3 Spinal injury *(20 papers)*

1. **a)** Describe the mechanism and classification of spinal cord injuries. [5] **b)** Discuss the role of methylprednisolone in spinal trauma. [5] — *DNB Dec 2025 P-II*
2. **a)** Enumerate and describe the unstable cervical spine fractures, including their mechanisms of injury, radiological and clinical characteristics. [5] **b)** How do you shift a patient with cervical spine injury? [5] — *DNB Jun 2025 P-II*
3. **a)** Describe various pure flexion-related (without any rotational component) cervical spinal cord injuries. [6] **b)** Describe cauda equina syndrome. [4] — *DNB Oct 2024 P-II*
4. **b)** Discuss central cord syndrome versus anterior cord syndrome. [5] — *DNB May 2024 P-II*
5. **a)** Canadian cervical spine rule. [5] — *DNB Oct 2023 P-II*
6. **a)** Discuss the incomplete spinal cord syndrome. [5] — *DNB Oct 2023 P-II*
7. **a)** Neurogenic shock versus spinal shock. [5] — *DNB Oct 2023 P-I*
8. **a)** Describe various clinical decision rules in ordering CT cervical spine in adult. [5] — *DNB Jun 2022 P-II*
9. **a)** Discuss spinal cord syndromes. [5] — *DNB Jun 2022 P-I*
10. NEXUS criteria Canadian C spine rule — *KUHS May 2022 P-I*
11. **a)** Discuss management of patient with life threatening cervical spine injury. [5] **b)** Discuss spinal cord syndromes. [5] — *DNB Dec 2021 P-II*
12. **a)** Differentiate between neurogenic and spinal shock. [2] **b)** Differences in children to be considered in treating spinal cord injury. [4] — *DNB Dec 2020 P-II*


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13. **a)** NEXUS C-spine rule. [2] **b)** Canadian C-spine rule. [3] — *DNB Jun 2020 P-II*

14. **c)** Various rules for imaging cervical spine in a trauma patient. [4] — *DNB Jun 2019 P-I*

15. Management of a patient with suspected spine injury. — *KUHS Apr 2019 P-III*

16. **a)** Describe incomplete spinal cord syndromes. [6] **b)** Management of neurogenic shock. [4] — *DNB Dec 2018 P-II*

17. Neurogenic shock — *KUHS Oct 2018 P-I*

18. **a)** What is neurogenic shock? [1] **b)** Pathophysiology of neurogenic shock. [3] **c)** How will you differentiate neurogenic shock from spinal shock? [3] **d)** How do you manage neurogenic shock? [3] — *DNB Jun 2018 P-I*

19. **a)** List the incomplete spinal cord syndromes. [2] **b)** Management of neurogenic shock. [3] **c)** Mechanisms of injuries encountered in cervical spine trauma with an example in each category. [5] — *DNB Dec 2017 P-II*

20. **a)** Clinical features of anterior cord syndrome. [3] **b)** Clinical features of posterior cord syndrome. [3] **c)** Differentiate spinal shock and neurogenic shock. [2] **d)** How will you manage neurogenic shock? [2] — *DNB Dec 2016 P-II*

21. **[7 marks]** Central cord syndrome. — *TNMGR Oct 2025 P-III*

22. **[7 marks]** Canadian C spine rule. — *TNMGR Oct 2025 P-III*

## 12.4 Chest trauma *(17 papers)*

1. **Long essay [15 marks]** Thoracic trauma: Injuries, assessment, primary survey and management. — *TNMGR Dec 2024 P-III*

2. **Essay [20 marks]** A 16 years old boy presents to ED complaining of shortness of breath and pain on right side of chest. He informs being beaten by hockey sticks in playground 30 minutes ago. His vitals are: respiratory rate – 28/minute, oxygen saturation – 80% on room air, pulse – 110/min, blood pressure – 90/50 mmHg. His Glasgow coma scale is 15/15 with normal pupils and no deficits. **a)** What are the possible chest injuries in this patient [3] **b)** How will you detect various chest injuries in the ED [7] **c)** How will you relieve him of his pain [5] **d)** The patient was intubated by an intern and put on ventilator. However, the boy suddenly collapsed with un-recordable blood pressure. Enumerate the probable causes of his deterioration. [5] — *KUHS Jun 2020 P-III*

3. **c)** Flail chest. [5] — ***DNB Jun 2025 P-II · DNB Oct 2024 P-II [2×]***

4. **c)** Resuscitative thoracotomy. [3] — ***DNB Oct 2024 P-IV · DNB Dec 2019 P-I [2×]***

5. **a)** Describe the ED approach to traumatic diaphragmatic injury, including clinical signs and imaging modalities. [5] **b)** Discuss the indications, technique, and complications of emergency thoracotomy in trauma. [5] — *DNB Dec 2025 P-II*

6. Management of life threatening chest injuries — *KUHS Jun 2024 P-III*

7. **a)** Describe the clinical decision rule to evaluate the need for CT chest in blunt chest trauma. [5] — *DNB May 2024 P-II*

8. **a)** How will you identify and describe treatment of tension pneumothorax? [5] — *DNB Oct 2023 P-II*

9. **a)** Open pneumothorax. [3] **b)** Rib fractures. [3] **c)** Role of ultrasound in the ER in chest trauma. [4] — *DNB Dec 2020 P-II*

10. Open pneumothorax — *KUHS Apr 2018 P-III*

11. A 16 year old boy presents to ED complaining of shortness of breath and pain on right side of chest. He informs being beaten by hockey sticks in playground 30 minutes ago. His vitals are: Respiratory rate – 28/minute, oxygen saturation – 80% on room air, pulse – 110/min, blood pressure – 90/50 mmHg. His Glasgow Coma Scale is 15/15 with normal pupils and no deficits. **a)** What are the possible chest injuries in this patient? [3] **b)** How will you detect various chest injuries in the ED? [3] **c)** How will you relieve him of his pain? [2] **d)** The patient was intubated by an intern and put on ventilator. However, the boy suddenly collapsed with unrecordable blood pressure. Enumerate the probable causes of his deterioration? [2] — *DNB Dec 2017 P-II*

12. Blunt aortic injury — *KUHS May 2017 P-I*


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13. **a)** Mention the six killers in thoracic trauma. [3] **b)** Clinical features of tension pneumothorax. [3] **c)** Procedure for needle decompression. [2] **d)** Procedure for intercostal drain insertion. [2] — *DNB Dec 2016 P-II*
14. Pulmonary contusion — *KUHS Jun 2016 P-III*
15. **[7 marks]** Commotion cordis. — *TNMGR Oct 2025 P-III*

## 12.5 Abdominal and pelvic trauma *(11 papers)*

1. **Essay [20 marks]** Describe the pelvic anatomy relevant to understanding of pelvic injuries. How would you classify pelvic fractures. How would you clinically evaluate the patient with pelvic fractures. What are your goals in the ED. — *KUHS May 2017 P-I*
2. **a)** Describe the classification and management of pelvic fractures in trauma. [5] **b)** Discuss the role of pelvic binders and angiographic embolization. [5] — *DNB Dec 2025 P-II*
3. **a)** Outline the approach to penetrating abdominal trauma. [5] **b)** Describe indications for laparotomy in abdominal trauma. [5] — *DNB Dec 2025 P-II*
4. **a)** Describe assessment and management of a patient with isolated renal trauma. [5] — *DNB May 2024 P-II*
5. **b)** Indications for Laparotomy in abdominal trauma. [5] — *DNB Oct 2023 P-II*
6. Describe abdominal injuries, FAST evaluation and management in abdomen trauma as per ATLS protocol. — *KUHS Jul 2023 P-III*
7. **a)** Emergency management of pelvic trauma patients. [5] — *DNB Apr 2023 P-II*
8. **b)** Classification and management of splenic injury. [4] — *DNB Dec 2022 P-II*
9. **a)** Describe the classification of liver and kidney injury. [5] **b)** Discuss classification of pelvic fractures. [5] — *DNB Jun 2022 P-II*
10. **a)** Compare and contrast the two major classifications of pelvic fractures. [3] **b)** Clinical presentation and patient profile for pelvic fracture. [2] **c)** Management of unstable pelvic fractures in ED. [5] — *DNB Dec 2019 P-II*
11. Pelvis fracture — *KUHS Oct 2018 P-III*
12. A 35-year old man sustained blunt trauma to hip by lateral collision. His B.P. at arrival is 70 mmHg. He has no other obvious injury. You are strongly suspecting pelvic fracture. **a)** How will you examine this patient with regard to suspected pelvic fracture? [2] **b)** How do you classify pelvic fracture? [3] **c)** How will you investigate this patient for pelvic fracture? [3] **d)** After taking care of ABCD, how will you manage this patient in the ED if he is found to have a pelvic fracture? [2] — *DNB Jun 2018 P-II*

## 12.6 Maxillofacial, neck and eye trauma *(12 papers)*

1. **a)** Outline the management of traumatic globe rupture in the ED. [5] **b)** Describe the classification and treatment of zygomatic fractures. [5] — *DNB Dec 2025 P-II*
2. **a)** Outline the management of auricular laceration. [5] **b)** Describe airway challenges in facial trauma. [5] — *DNB Dec 2025 P-II*
3. **a)** Le-Fort injury patterns. [5] **b)** Discuss Penetrating neck trauma protocol. [5] — *DNB Jun 2025 P-II*
4. **b)** Significant clinical features in facial trauma. [5] **c)** LeFort fractures. [2] — *DNB Oct 2024 P-II*
5. **a)** Discuss nasal fracture and septal hematoma. [3] — *DNB May 2024 P-II*
6. A young male is brought to the ER in an unconscious state. He has gurgling sounds, bleeding from the mouth, withdrawal reponse to pain and non recordable BP. **b)** On primary survey, a penetrating wound was found on the side of neck. Discuss the penetrating neck trauma protocol. [5] — *DNB Apr 2023 P-II*
7. **b)** Mention hard and soft signs of neck injuries. [4] — *DNB Dec 2022 P-II*
8. **a)** Discuss Le Fort injury patterns of face. [5] — *DNB Dec 2022 P-II*


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9. **b)** Describe the management of a suicidal hanging patient brought to emergency department. [5] — *DNB Jun 2022 P-II*

10. A 35-year-old male bike rider presents to emergency with history of head-on collision with a motor vehicle. He is drowsy and sonorous, responding with 'Aaah-Uggh' on painful stimuli and extensor response in lower limbs. Pulse 120/min, BP 80/60 mmHg and saturation 70%. On examination, his mouth is full of blood and breath sounds are not heard over left lung. **b)** Describe Le-Fort classification and management algorithms of maxillofacial injury. [3] — *DNB Dec 2019 P-II*

11. **a)** Anatomic boundaries and structures of the anterior neck zones (Horizontal zones). [3] **b)** Features of airway compromise in neck injuries. [2] **c)** Treatment options for airway management in a patient with neck trauma [3] **d)** What is "No-zone" targeted diagnostic work up in penetrating neck injuries? [2] — *DNB Jun 2019 P-II*

12. Leforte fractures — *KUHS Oct 2018 P-I*

13. A 20-year adult male was hit by a cricket ball and sustained blunt trauma to right eye while playing. He presented to ED with severe pain in the eye. **a)** What are the possible ocular injuries sustained? [2] **b)** How will you evaluate this case? [3] **c)** Evaluation for ruptured eye globe. [3] **d)** Management of ruptured eye globe. [2] — *DNB Jun 2018 P-II*

14. **a)** Classify facial fractures. [3] **b)** Airway management in a patient with facial injury. [4] **c)** Haemorrhage control in such a patient. [3] — *DNB Dec 2016 P-II*

## 12.7 Burns and smoke inhalation *(12 papers)*

1. **Essay [20 marks]** A 56 years old male has been wheeled into your ED with deep second degree burns involving both upper limbs. He has an unsuccessful attempt trying to save his wife from fire within a closed compartment having wool garments. He is highly agitated and coughing black sputum. Answer the following: **a)** What are your initial concerns in managing this [4] **b)** Management of various inhalational injuries by smoke [4] **c)** Classify burns [3] **d)** Parkland's formula for fluid resuscitation of burns [6] **e)** Pain management in burns victim [3] — *KUHS Jun 2020 P-II*

2. What are the priorities in the initial management of a patient with 60% burns presenting to the ED. Which cases will you refer to a burns center. — *KUHS Nov 2025 P-III*

3. A 30-year-old female is brought with thermal burns following deliberate self-harm: **a)** Classify thermal burns. [4] **b)** Discuss the ED management of various categories of thermal burns. [6] — *DNB Oct 2024 P-II*

4. **a)** How will you assess an adult patient with thermal burns in the emergency department? [6] — *DNB Dec 2022 P-II*

5. **a)** Inhalational injury management in ED. [5] — *DNB Dec 2021 P-II*

6. **a)** Patho-physiology and management of smoke inhalation. — *DNB Jun 2020 P-III*

7. A 56-year-old male whose weight is 70 kg, has been brought to your ED with second degree burns involving both upper limbs. He had an unsuccessful attempt trying to save his wife from fire within a closed compartment having cool garments. He is highly agitated and coughing black sputum. **a)** What are the initial concerns in managing this case? [2] **b)** How will you manage various inhalational injuries produced by smoke? [3] **c)** Discuss Parkland formula for fluid resuscitation in such case. [5] — *DNB Dec 2018 P-II*

8. Physiologic effects of thermal injury — *KUHS Oct 2018 P-I*

9. A 56 year old male has been wheeled into your ED with deep second degree burns involving both upper limbs. He had an unsuccessful attempt trying to save his wife from fire within a closed compartment having wool garments. He is highly agitated and coughing black sputum. **a)** What are your initial concerns in managing this patient? **b)** How will you manage various inhalational injuries produced by smoke? **c)** Discuss Parkland's formula for fluid resuscitation of burn in adults. — *DNB Dec 2017 P-II*

10. **a)** Classification of thermal burns based on depth. [3] **b)** Role of 'Nine' in adults. [3] **c)** Fluid requirement in an adult weighing 60 kg with 30% burns. [4] — *DNB Jun 2017 P-II*


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11. Fluid resuscitation in burns — *KUHS Jun 2015 P-II*

12. **[7 marks]** Fluid management in a burn's victim. — *TNMGR Jul 2023 P-III*

## 12.8 Trauma in pregnancy, elderly and children *(7 papers)*

1. **Long essay [15 marks]** Maternal trauma – Injuries, Assessment, Primary survey and Management. — *TNMGR Oct 2025 P-III*

2. **Long essay [15 marks]** Trauma survey in the pregnant patient: Anatomic and physiological considerations, resuscitation and management. — *TNMGR Jul 2023 P-III*

3. **a)** Discuss key differences between pediatric and adult trauma victims. [5] — *DNB May 2024 P-II*

4. A young pregnant female is brought to the ER after her car which she was driving was hit by a truck from behind. She is brought to ED by ambulance with cervical collar. She is confused with feeble pulse and bleeding PV. **a)** Enumerate possible injuries and ED management in this patient. [5] **b)** How to proceed if she has a witnessed cardiac arrest in ED? [5] — *DNB Apr 2023 P-II*

5. Discuss trauma in pregnancy — *KUHS May 2022 P-I*

6. **a)** Clinical features and management of geriatric trauma. [4] — *DNB Dec 2019 P-IV*

7. **a)** Mention 3 anatomical and 3 physiological changes in pregnancy. [3] **b)** What is the importance of these changes in trauma management? [3] **c)** What is supine hypotension syndrome and how do you correct it? [4] — *DNB Dec 2016 P-II*

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# 13. Orthopaedic and Musculoskeletal Emergencies (81 questions)

## ★ Most-asked topics in this chapter

- Upper limb injuries — ***asked in 26 papers***
- Fracture principles, splinting and compartment syndrome — ***asked in 18 papers***
- Lower limb and hip injuries — ***asked in 16 papers***
- Non-traumatic musculoskeletal emergencies — ***asked in 11 papers***

## 13.1 Upper limb injuries *(26 papers)*

1. **a)** Galeazzi's fracture dislocation and Monteggia's fracture dislocation. [5] — *DNB Jun 2025 P-II*
2. **b)** Jersey finger. [5] — *DNB Jun 2025 P-II*
3. Discuss classification, physical finding and management of acromion clavicular joint injuries. — *KUHS Jan 2025 P-III*
4. Complications and suture techniques of extensor tendon laceration of the fingers — *KUHS Jun 2024 P-III*
5. **b)** Discuss on radiological findings, complication and ED management of supracondylar fracture of humerus in children. [5] — *DNB Oct 2023 P-IV*
6. **a)** Describe sensory and motor function testing of the radial, median and ulnar nerves in elbow injury. [5] **b)** Anterior shoulder dislocation. [5] — *DNB Oct 2023 P-II*
7. **b)** Supracondylar fracture of humerus in a 6 year old boy. [5] — *DNB Dec 2022 P-IV*
8. **a)** Compare and contrast anterior versus posterior shoulder dislocation with regards to history, physical findings and X-ray findings. [5] **b)** Classification and management of proximal humerus fractures. [5] — *DNB Dec 2022 P-II*
9. **a)** Discuss etiology and clinical features of brachial plexus injuries. [5] — *DNB Dec 2022 P-II*
10. **a)** Rotator cuff injuries. [4] **b)** Flexor and extensor tendon injuries of hand. [6] — *DNB Dec 2022 P-II*
11. **b)** Describe injuries related to mechanism with fall on outstretched hand. [5] — *DNB Jun 2022 P-IV*
12. **b)** Clinical presentation of ulnar nerve injuries. [5] — *DNB Dec 2021 P-I*
13. **b)** Anticipated injuries and ED management in a child falling on outstretched hand. [5] — *DNB Dec 2021 P-IV*
14. A 10-year-old presents with history of fall on outstretched hand, severe pain and swelling at elbow. **a)** Clincal, diagnostic and management approach to the child. [5] **b)** Enumerate complications which can develop in the child. [1] **c)** Enumerate the injuries which can happen due to fall on an outstretched hand. [2] **d)** Salter-Harris classification of fractures. [2] — *DNB Jun 2021 P-II*
15. **a)** Draw a diagram of rotator cuff muscles of shoulders alongwith their functions. [3] **b)** Risk factors for rotator cuff injury. [2] **c)** Clinical assessment of rotator cuff injury. [3] **d)** Imaging in a patient with rotator cuff injury. [2] — *DNB Jun 2021 P-II*
16. A 24-year-old wrestler had injury to his right shoulder while wrestling. He comes to ER with pain in his shoulder and restricted shoulder movement. He has had two episodes of shoulder dislocation in the past. **a)** Clinical assessment of the above patient. [3] **b)** Investigations. [3] **c)** Management of anterior shoulder dislocation. [4] — *DNB Dec 2020 P-II*
17. **a)** Discuss rotator cuff injuries. [4] **b)** Diagram of anatomy of brachial plexus. [3] **c)** Clinical presentation of Brachial plexus injuries. [3] — *DNB Jun 2020 P-I*
18. **c)** High pressure hand injuries. [3] — *DNB Jun 2020 P-II*
19. **a)** Anatomy of wrist joint. [4] **b)** Radiological features of normal wrist joint. [3] **c)** Perilunate dislocation. [3] — *DNB Jun 2020 P-II*
20. Classify supracondylar fractures of humerus. Explain clinical presentation of supracondylar fracture. What are the early and late complications of supracondylar fracture. — *KUHS Jun 2020 P-III*


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21. **b)** Discuss the anatomy of shoulder joint. Describe the various types of shoulder dislocation. [3] **c)** Describe the assessment of scaphoid lunate dislocation. [3] *— DNB Dec 2019 P-I*

22. **b)** Describe the clinical features and management of supracondylar fracture. [4] *— DNB Dec 2019 P-II*

23. **a)** How do you examine radial, median and ulnar nerve injuries at elbow and at wrist? [4] **b)** What is Nurse-maid injury? [2] **c)** Describe methods to manage Nurse-maid injury. [4] *— DNB Jun 2019 P-II*

24. **a)** Anatomy of shoulder joint. [4] **b)** Pathophysiology of impingement syndrome of shoulder. [3] **c)** Pathophysiology of rotator cuff tear. [3] *— DNB Jun 2018 P-I*

25. **a)** Enumerate various fractures of radius bone. [2] **b)** Clinical and radiological features of Smith 's fracture. [4] **c)** Enumerate complications of Smith 's fracture. [2] **d)** How do you manage this fracture in ED? [2] *— DNB Jun 2018 P-II*

26. **a)** Classify supracondylar fractures of humerus. [2] **b)** Clinical presentation of supracondylar fracture. [2] **c)** What are the early and late complications of supracondylar fracture? [2] *— DNB Jun 2018 P-II*

27. **a)** Anatomy of rotator cuff around shoulder. [4] **b)** Examination findings of rotator cuff injuries. [3] **c)** How will you investigate a patient with suspected rotation cuff injury? [3] *— DNB Jun 2017 P-II*

28. Scaphoid fractures *— KUHS May 2017 P-III*

29. Complications of supracondylar fractures *— KUHS Jun 2016 P-III*

30. Anterior shoulder dislocation *— KUHS Jun 2015 P-III*

31. **[7 marks]** Scaphoid fracture. *— TNMGR Oct 2025 P-III*

32. **[7 marks]** Supracondylar fracture humerus. *— TNMGR Dec 2024 P-III*

## 13.2 Lower limb and hip injuries *(16 papers)*

1. **a)** Explain the emergency management of posterior dislocation of hip. [5] *— DNB Dec 2025 P-II*

2. **b)** Gustilo classification of open tibia shaft fractures. [5] *— DNB Jun 2025 P-II*

3. **a)** Describe about fractures of the hip. [6] **b)** Describe anterior and posterior cruciate ligament injuries of the knee joint. [4] *— DNB Oct 2024 P-II*

4. **a)** Discuss about hip fractures. [5] **b)** Describe clinical features of posterior hip dislocation and Allis maneuver to reduce it. [5] *— DNB May 2024 P-II*

5. **b)** Ottawa rules for radiological investigation in ankle pain. [5] *— DNB Apr 2023 P-II*

6. **a)** Describe Lisfranc Injury. [5] **b)** Describe the clinical decision rules to evaluate knee and ankle injuries. [5] *— DNB Jun 2022 P-II*

7. **a)** Clinical presentation of hip fracture in ED. [5] *— DNB Dec 2021 P-II*

8. **b)** Evaluation and management of Dashboard injury. [5] *— DNB Dec 2021 P-II*

9. **c)** Dislocation of femoral head. *— DNB Jun 2020 P-II*

10. **c)** Ottawa knee rule. [3] **d)** Ottawa ankle rule. [2] *— DNB Jun 2020 P-II*

11. **a)** Draw the anatomy of ankle joint. Describe the assessment of Lisfranc injury. [4] *— DNB Dec 2019 P-I*

12. **c)** Drawer tests. [2] **d)** Ottawa knee and ankle rules. [3] *— DNB Dec 2019 P-IV*

13. **a)** Anatomy of knee joint. [5] **b)** Clinical tests for diagnosis of cruciate ligament injuries of knee. [5] *— DNB Jun 2019 P-I*

14. **a)** How do you classify fractures of proximal femur? [2] **b)** What are the clinical features of proximal femur fractures? [3] **c)** ED management of proximal femur fracture. [3] **d)** Complications of proximal femur fracture. [2] *— DNB Jun 2019 P-II*

15. **a)** Anatomy of knee relevant to trauma. [3] **b)** Discuss important neurovascular complications of injuries to knee. [3] **c)** Meniscal and ligament injuries around knee joint. [4] *— DNB Dec 2017 P-II*

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16. **a)** Classify fractures of femur. [2] **b)** How will you diagnose fracture neck of femur? [3] **c)** How will you manage a patient with femoral shaft fracture in the ED? [3] **d)** What are the complications of various types of femur fractures? [2] — *DNB Jun 2017 P-II*

17. **[7 marks]** Ankle dislocation. — *TNMGR Oct 2025 P-III*

18. **[7 marks]** Posterior hip dislocation. — *TNMGR Dec 2024 P-III*

19. **[7 marks]** Ottawa knee rules. — *TNMGR Dec 2024 P-III*

## 13.3 Fracture principles, splinting and compartment syndrome *(18 papers)*

1. Compartment syndrome — ***TNMGR Jul 2023 P-III · KUHS Apr 2018 P-III [2×]***

2. **a)** Discuss the pathophysiology and management of compartment syndrome. [5] **b)** Describe the technique and indications for fasciotomy. [5] — *DNB Dec 2025 P-II*

3. Discuss the clinical presentation of a pa tient with fat embolism syndrome (FES). Discuss the pathogenesis, diagnosis and management of a patient with FES in ED. — *KUHS Nov 2025 P-III*

4. Describe long bone fracture management in pre-hospital care and in ED. — *KUHS Jun 2024 P-I*

5. Diagnosis and management of suspected fat embolism in a trauma victim. — *KUHS Jun 2024 P-II*

6. **b)** Describe various immobilisaion dressings used in the ED in upper limb injuries. [5] — *DNB May 2024 P-II*

7. Crush injuries and crush syndromes. — *KUHS May 2021 P-III*

8. A 28-year-old male presented to ED with severe pain in the left lower leg following crush injury 2 days ago. The left lower leg is edematous and red. Crepitus is present. **a)** Describe anatomy and pathophysiology of compartment syndrome. [3] **b)** Investi ga tions in compartment syndrome. [2] **c)** Treatment of compartment syndrome. [5] — *DNB Dec 2020 P-II*

9. **b)** Compartments of leg. [3] — *DNB Jun 2020 P-II*

10. **a)** Splint immobilizers in ED for upper extremity injuries. **b)** Complications of fracture-dislocation and their ED management. — *DNB Jun 2020 P-II*

11. **a)** Define compartment syndrome. [1] **b)** Write about settings in which it occurs. [2] **c)** Write about its clinical presentation. [3] **d)** Management of a case of suspected compartment syndrome in case of fracture shaft tibia on the right side. [4] — *DNB Dec 2018 P-II*

12. **a)** Basic principles of splinting and traction. [3] **b)** Devices used in ED and pre-hospital care for splinting. [3] **c)** Write about types of immobilization dressings. [4] — *DNB Dec 2018 P-I*

13. **a)** Classify fractures. [2] **b)** How do the fractures heal? [2] **c)** How will you describe radiographic appearance of a long-bone fracture? [3] **d)** Principles of splinting of long-bone fractures. [3] — *DNB Jun 2018 P-II*

14. **d)** Diagnosis and management of compartment syndrome. [4] — *DNB Jun 2018 P-II*

15. Splinting techniques. — *KUHS May 2017 P-I*

16. **a)** Causes of compartment syndrome. [3] **b)** Clinical features and diagnosis of compartment syndrome. [3] **c)** How will you manage it in the Emergency Department? [2] **d)** Complications of compartment syndrome. [2] — *DNB Dec 2016 P-II*

17. Compartment syndrome-recognition and treatment — *KUHS Jun 2015 P-III*

18. **[7 marks]** Traction devices and splints. — *TNMGR Oct 2025 P-IV*

19. **[7 marks]** Salter Harris classification. — *TNMGR Dec 2024 P-III*

## 13.4 Non-traumatic musculoskeletal emergencies *(11 papers)*

1. **a)** Discuss the ED management of acute gout flare. [5] **b)** Describe the role of colchicine and corticosteroids in management of acute gout flare. [5] — *DNB Dec 2025 P-III*

2. **a)** Discuss differential diagnosis of atraumatic back pain syndromes. [5] — *DNB Jun 2025 P-II*

3. **a)** Describe various bursal syndromes of hip and knee. [5] — *DNB May 2024 P-II*

4. **a)** Discuss clinical features and management of a patient with acute gout. [5] — *DNB May 2024 P-III*


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5. Describe regional nerve entrapment syndromes of the hip. Describe about Bursal syndromes of the knee. *— KUHS Jul 2023 P-III*

6. **a)** Evaluation of acute painful swollen ankle joint in ED. [5] *— DNB Apr 2023 P-II*

7. **a)** Discuss differential diagnoses of acute onset joint pain. [4] **b)** Synovial fluid examination findings of various causes of acute arthritis. [3] **c)** Discuss the initial approach to acute onset monoarticular arthritis. [3] *— DNB Jun 2021 P-II*

8. **a)** Causes of acute low back pain. [2] **b)** Red flag symptoms in back pain. [2] **c)** Cauda e quina syndrome. [6] *— DNB Dec 2020 P-II*

9. **a)** Management of septic arthritis of knee joint in Emergency Department. [4] *— DNB Jun 2020 P-II*

10. Carpal tunnel syndrome *— KUHS Apr 2018 P-III*

11. **a)** Regional nerve entrapment syndromes of the hip [3] **b)** Bursal syndromes of the knee [3] **c)** Knee myofascial syndromes [4] *— DNB Dec 2017 P-II*

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# 14. Surgical and Urological Emergencies (82 questions)

## ★ Most-asked topics in this chapter

- Urological emergencies — ***asked in 29 papers***
- Acute abdomen and general surgical emergencies — ***asked in 27 papers***
- Soft tissue infections and wound care — ***asked in 11 papers***
- Vascular surgical emergencies – limb and mesenteric ischaemia — ***asked in 9 papers***

## 14.1 Acute abdomen and general surgical emergencies *(27 papers)*

**1.** **Long essay [15 marks]** Intestinal obstruction: Causes, clinical features, investigations and management. — *TNMGR Dec 2024 P-III*

**2.** **Essay [20 marks]** Outline the various quadrants of the abdomen. Discuss the differential diagnosis of right lower quadrant pain. — *KUHS Apr 2018 P-I*

**3.** **b)** Discuss the ED management of fistula-in-ano. [4] — *DNB Dec 2025 P-II*

**4.** **b)** Enumerate the differential diagnosis of right lower quadrant pain. [5] — *DNB Dec 2025 P-II*

**5.** Discuss diagrammatically anatomical features diagnosis and management of inguinal herma in a patient presenting to ED with groin pain. — *KUHS Nov 2025 P-I*

**6.** Discuss pathophysiology, etiology, clinical features and diagnosis of acute pancreatitis in ED. — *KUHS Nov 2025 P-II*

**7.** **a)** Discuss diagnostic studies, treatment and complications of acute pancreatitis. [5] **b)** Approach to a patient with bowel obstruction. [5] — *DNB Jun 2025 P-II*

**8.** **a)** Differential diagnosis of right lower quadrant acute abdominal pain in an adult male patient. [6] — *DNB May 2024 P-II*

**9.** **b)** Describe pathophysiology, clinical features, diagnosis and treatment of a patient with acute diverticulitis. [7] — *DNB May 2024 P-II*

**10.** **b)** Anal fissure. [5] — *DNB Oct 2023 P-II*

**11.** **b)** Enumerate common causes of small and large intestinal obstruction. [5] — *DNB Oct 2023 P-II*

**12.** What is the differential diagnosis of patients with right lower quadrant abdominal pain. How do you diagnose and manage patients suspected with acute appendicitis in ED ( — *KUHS Jul 2023 P-II*

**13.** **b)** Discuss scoring systems application in acute appendicitis. [5] — *DNB Apr 2023 P-I*

**14.** **a)** Enumerate causes of acute pancreatitis. [4] **b)** Laboratory diagnosis and grading of acute pancreatitis in ED. [6] — *DNB Apr 2023 P-I*

**15.** A 67-year-old patient presents to the emergency with acute onset of upper abdominal pain for the past 4 hours. The pain was non-colicky and radiated to the back. On examination, his pulse was 120/minute and blood pressure was 96/60 mmHg: **a)** Discuss differential diagnosis of abdominal pain in this patient. [5] **b)** How will you investigate him? [3] **c)** How will you manage him in the emergency department? [2] — *DNB Dec 2022 P-II*

**16.** **b)** Describe the assessment and management of abdominal compartment syndrome. [5] — *DNB Jun 2022 P-II*

**17.** **a)** Causes of acute painful swelling in the right inguinal region in a young male. [5] **b)** Appendicitis-conservative or surgical debate. [5] — *DNB Dec 2021 P-II*

**18.** **a)** Describe the radiological features on X-ray and ultrasound in a patient with acute abdomen. [5] **b)** Discuss Meckel's diverticulum. [2] d) Modified Alvarado score. [3] — *DNB Jun 2021 P-II*

**19.** Approach to acute abdomen in ED. — *KUHS May 2021 P-II*

**20.** A 58-year-old male presents to ER with distended abdomen, vomiting episodes and constipation since 2 days. You suspect bowel obstruction. **a)** Common causes of bowel obstruction. [3] **b)** Key features of ileus and mechanical bowel obstruction. [2] **c)** ER mana gement of the above patient. [5] — *DNB Dec 2020 P-II*


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21. **a)** Discuss anatomical and clinical features of various uncomplicated hernias. [4] **b)** Evaluation and management of obstructed hernia. [3] **c)** ED evaluation and management of intestinal obstruction. [3] — *DNB Jun 2020 P-II*

22. **b)** Various scoring systems in acute pancreatitis. [3] — *DNB Jun 2020 P-II*

23. Enumerate causes of acute pancreatitis. Describe the methods to assess severity of acute pancreatitis in ED. Describe diagnostic studies in a patient with suspected acute pancreatitis. — *KUHS Jun 2020 P-III*

24. **a)** Enumerate the causes of acute onset abdominal pain in epigastric region. Discuss the investigations to be sent from ED to reach the most probable diagnosis. [4] **b)** Describe the clinical features and management of acute appendicitis. [3] — *DNB Dec 2019 P-II*

25. **a)** Enumerate causes of acute pain in right upper quadrant of abdomen. [3] **b)** Clinical features of acute cholecystitis. [3] **c)** Diagnosis of acute cholecystitis. [2] **d)** ED management of acute cholecystitis. [2] — *DNB Jun 2019 P-II*

26. **a)** Enumerate causes of acute pancreatitis. [2] **b)** Describe the methods to assess the severity of acute pancreatitis in ED. [5] **c)** Write about only diagnostic studies in patients with suspected acute pancreatitis. [3] — *DNB Dec 2018 P-II*

27. **a)** Enumerate causes of acute pain in the right lower quadrant of abdomen. [2] **b)** Clinical features of acute appendicitis [3] **c)** Alvarado score for acute appendicitis [2] **d)** Role of Ultrasound in diagnosis of acute appendicitis [3] — *DNB Jun 2018 P-II*

28. Prediction of severe acute pancreatitis — *KUHS Apr 2018 P-I*

29. **a)** Enumerate common causes of acute pancreatitis. [2] **b)** How do you assess severity of acute pancreatitis in ED? [3] **c)** Diagnostic studies in a patient with suspected acute pancreatitis. [3] **d)** What are the local complications seen in acute pancreatitis? [2] — *DNB Dec 2017 P-II*

30. A 60 year old male patient comes to the Emergency Department with severe acute abdominal pain. **a)** Enumerate your differential diagnoses. [3] **b)** How will you evaluate the patient clinically? [4] **c)** How will you investigate the patient? [3] — *DNB Dec 2016 P-II*

31. Acute pancreatitis-RAMSON criteria and management — *KUHS Jun 2016 P-II*

32. **[7 marks]** Acute diverticulitis. — *TNMGR Oct 2025 P-III*

33. **[7 marks]** Cholangitis. — *TNMGR Dec 2024 P-II*

34. **[7 marks]** Anorectal abscess. — *TNMGR Dec 2024 P-III*

## 14.2 Vascular surgical emergencies – limb and mesenteric ischaemia *(9 papers)*

1. **Long essay [15 marks]** Acute Limb Ischemia: etiology, classification, clinical presentation, evaluation, and management. — *TNMGR Jul 2023 P-III*

2. **a)** Rutherford criteria and laboratory evaluation for acute limb ischemia. [5] — *DNB Apr 2023 P-II*

3. **b)** Acute mesenteric ischemia. [5] — *DNB Dec 2022 P-III*

4. **a)** Causes and clinical presentation of brachial artery injury. [5] — *DNB Dec 2021 P-II*

5. **a)** Clinical presentation of acute limb ischemia. [2] **b)** Rutherford criteria for acute limb ischemia. [3] **c)** Differential diagnosis of acute limb ischemia. [2] **d)** ER mana gement of acute limb ischemia. [3] — *DNB Dec 2020 P-II*

6. **a)** Acute mesenteric ischemia. [4] **c)** Abdominal aortic aneurysm. [3] — *DNB Jun 2020 P-II*

7. A 55 year old smoker with type 2 diabetes presents to the emergency with pain in left leg and discoloration of big toe. **a)** Enumerate the causes & differentials of this presentation. [3] **b)** How would you evaluate this patient in emergency? [4] **c)** Medical management of this patient. [3] — *DNB Jun 2017 P-II*

8. **a)** What is the classic triad of ruptured abdominal aortic aneurysm? [2] **b)** External signs of acute aortic rupture. [2] **c)** Management of acute aortic rupture. [6] — *DNB Dec 2016 P-II*

9. Acute limb ischaemia — *KUHS Jun 2015 P-III*

10. **[7 marks]** Mesenteric ischemia. — *TNMGR Jul 2023 P-III*


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## 14.3 Urological emergencies *(29 papers)*

1. Testicular torsion — ***TNMGR Jul 2023 P-III · KUHS May 2022 P-III · KUHS May 2021 P-III [3×]***
2. Paraphimosis — ***TNMGR Oct 2025 P-III · KUHS Jun 2015 P-III [2×]***
3. **a)** Discuss briefly about various causes of acute scrotal pain. [4] **b)** How do you differentiate clinically among them? [4] **c)** Discuss the treatment options for testicular torsion in ED. [2] — ***KUHS Jul 2023 P-III · DNB Dec 2017 P-II [2×]***
4. **a)** Describe the ED management of traumatic urethral injury. [6] — *DNB Dec 2025 P-II*
5. What are the clinical features of a renal colic. How do you diagnosis and manage a 45 year old male patient presenting to ED with renal colic. — *KUHS Nov 2025 P-III*
6. **b)** Testicular torsion in 12-year-old boy. [5] — *DNB Jun 2025 P-IV*
7. What are the common causes, factors increasing the risk, clinical features and diagnosis of acute pyelonephritis presenting to ED. — *KUHS Jan 2025 P-I*
8. Explain briefly common causes, clinical features, diagnosis and management of hematuria. — *KUHS Jan 2025 P-III*
9. **a)** Discuss briefly about various causes of acute scrotal pain. [4] **b)** How do you differentiate clinically among them? [3] **c)** Discuss the management for the most serious cause of acute scrotal pain in the ED. [3] — *DNB Oct 2024 P-II*
10. **b)** Differential diagnosis of sexually transmitted painless genital ulcers. [6] — *DNB Oct 2024 P-III*
11. **a)** Phimosis and paraphimosis. [5] — *DNB Oct 2023 P-IV*
12. **a)** Discuss clinical features, diagnostic workup and treatment for urinary bladder injuries in adult male. [5] — *DNB Oct 2023 P-II*
13. How do you assess and manage a sexually active young male presenting to ED with dysuria. — *KUHS Jul 2023 P-II*
14. UTI (Urinary Tract Infection) — *KUHS Jul 2023 P-IV*
15. **a)** Clinical features and management of paraphimosis in a 7 year old child. [5] — *DNB Dec 2022 P-IV*
16. **b)** Discuss differential diagnosis and management of genital ulcers. [7] — *DNB Dec 2022 P-III*
17. **b)** Discuss differential diagnosis of acute, painful and unilateral scrotal swelling. [5] — *DNB Dec 2022 P-II*
18. **b)** Discuss clinical features, diagnosis and treatment of urethral injuries in a male. [5] — *DNB Dec 2022 P-II*
19. **a)** ER management of testicular torsion in a 6 year old boy with sickle cell trait. [5] — *DNB Dec 2021 P-IV*
20. **a)** Draw and discuss the nerve supply of urinary bladder. [5] **b)** Approach to a patient with acute retention of urine. [2] **c)** Approach to a patient with hematuria. [3] — *DNB Jun 2021 P-II*
21. **a)** Differential diagnosis and management of acute onset scrotal pain. [3] **b)** Describe the clinical features and management of zipper entrapment injury. [3] — *DNB Dec 2019 P-II*
22. A 27-year-old man was found to be involved in a car accident. After taking care of ABCD, he was stabilized. Now on secondary survey, you are strongly suspecting genitourinary trauma. **a)** How will you differentiate between extra peritoneal bladder rupture and intra peritoneal bladder rupture? [2] **b)** How do you treat extra peritoneal bladder rupture? [2] **c)** Indications for operative treatment for extraperitoneal bladder rupture. [2] **d)** Clinical features of urethral injuries [2] **e)** Diagnosis of urethral injuries [2] — *DNB Jun 2019 P-II*
23. **a)** How will you differentiate pyelonephritis from cystitis? [2] **b)** What is the difference between uncomplicated urinary tract infection and complicated urinary tract infection? [3] **c)** Discuss urine analysis in urinary tract infection. [3] **d)** Comment on antimicrobial regime for adult female having complicated cystitis. [2] — *DNB Jun 2019 P-III*
24. **a)** Enumerate various causes of acute scrotal pain. [3] **b)** Write how to differentiate clinically important causes of acute scrotal pain. [4] **c)** Treatment option for testicular torsion in ED. [3] — *DNB Dec 2018 P-II*


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**25.** Torsion testes — *KUHS Oct 2018 P-III*

**26.** **a)** Differential diagnosis of acute scrotal pain. [3] **b)** What is Prehn's sign? [2] **c)** How will you diagnose torsion testis? [2] **d)** How you will perform detorsion of the testis? [3] — *DNB Dec 2016 P-II*

## 14.4 Soft tissue infections and wound care *(11 papers)*

**1.** **a)** Anatomy of layers of scalp and hair apposition technique. [6] — *DNB Jun 2025 P-I*

**2.** **a)** Clinical features of gas gangrene. [4] — *DNB Oct 2024 P-III*

**3.** **b)** Discuss facial cellulitis and erysipelas. [4] — *DNB May 2024 P-II*

**4.** **b)** Discuss pathophysiology, clinical features and management of gas gangrene. [5] — *DNB May 2024 P-II*

**5.** **a)** Enumerate the advantages and disadvantages of various wound closure techniques in a tabular format. [5] **b)** Emergency management of severe soft tissue injuries. [5] — *DNB Apr 2023 P-II*

**6.** **b)** Discuss various non-absorbable sutures alongwith their usage in the emergency department. [6] — *DNB Dec 2022 P-I*

**7.** Diseases clinical features of necrotizing fascitis — *KUHS May 2022 P-II*

**8.** Describe about the principles and steps of basic wound management. — *KUHS Jun 2020 P-I*

**9.** **a)** Assessment and management of lip laceration. [2] **b)** Evaluation and management of necrotizing fasciitis of leg. [3] **c)** Evaluation and management of bleeding scalp wound. [2] — *DNB Dec 2019 P-II*

**10.** A 55-year-old diabetic patient presented with redness and swelling over right leg for two days. **a)** Enumerate the possible causes. [2] **b)** What is the role of ultrasound in this patient? [2] **c)** Clinical features of any two causes. [3] **d)** Management of such patients in ED. [3] — *DNB Jun 2018 P-II*

**11.** **a)** Various etiological agents producing gas gangrene. [2] **b)** Pathogenesis of gas gangrene. [2] **c)** How will you manage gas gangrene in emergency? [4] **d)** Systemic complications related to necrotizing soft tissue infections. [2] — *DNB Jun 2017 P-II*

**12.** **[7 marks]** Paronychia. — *TNMGR Jul 2023 P-III*

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# 15. Obstetric and Gynaecological Emergencies (58 questions)

## ★ Most-asked topics in this chapter

- Obstetric emergencies — ***asked in 39 papers***
- Gynaecological emergencies and sexual assault — ***asked in 16 papers***

## 15.1 Obstetric emergencies *(39 papers)*

**1.** **Essay [20 marks]** Describe the stages of labour. Describe the clinical features of premature labour and what would be your diagnostic strategies. How would you manage in the casualty. — *KUHS May 2021 P-III*

**2.** **Essay [20 marks]** Discuss emergencies in first 20 weeks of pregnancy in detail. — *KUHS Apr 2019 P-III*

**3.** **Essay [20 marks]** Discuss the pathophysiology, clinical features and treatment of ectopic pregnancy. — *KUHS Apr 2018 P-III*

**4.** HELLP syndrome — ***KUHS Jun 2024 P-III · KUHS Apr 2018 P-III [2×]***

**5.** What are the causes of vaginal bleeding in the first half of pregnancy. How will you manage a 28-year-old female presenting to ED with vaginal bleeding in Shock. — *KUHS Nov 2025 P-III*

**6.** **a)** Discuss diagnostic algorithm and treatment for suspected ectopic pregnancy. [5] **b)** Definitions of pre-eclampsia and laboratory evaluation for pre-eclampsia. [5] — *DNB Jun 2025 P-II*

**7.** Discuss causes, clinical features and management of vaginal bleeding during second half of Pregnancy. — *KUHS Jan 2025 P-III*

**8.** **b)** Spontaneous abortion. [4] **c)** Hyperemesis gravidarum. [3] — *DNB Oct 2024 P-II*

**9.** A 26-week pregnant female with no previous antenatal follow up was detected to have a blood pressure of 160/98 mmHg: **a)** Describe differential diagnosis of elevated blood pressure in this patient. [6] **b)** Describe investigations and treatment plan in this patient. [4] — *DNB Oct 2024 P-II*

**10.** **a)** Describe the physiological changes in third trimester of pregnancy. [5] **b)** Describe the pathophysiology and clinical features of eclampsia. [5] — *DNB May 2024 P-I*

**11.** **a)** Discuss the diagnosis and management of premature rupture of membranes. [5] — *DNB May 2024 P-II*

**12.** **b)** Describe clinical presentation and investigation for placental abruption and amniotic membrane rupture following trauma. [5] — *DNB Oct 2023 P-II*

**13.** **b)** Describe pathological changes of pregnancy. [5] — *DNB Oct 2023 P-I*

**14.** Enumerate causes of PPH and ED management of a patient presented with PPH (Post-Partum Haemorrhage). — *KUHS Jul 2023 P-III*

**15.** **a)** Discuss medical management of a patient with ectopic pregnancy. [5] **b)** Discuss differential diagnosis and management of acute onset of dyspnea in a 40-weeks pregnant patient. [5] — *DNB Dec 2022 P-II*

**16.** **b)** Describe McMahon score. [5] — *DNB Jun 2022 P-II*

**17.** **a)** Discuss the anatomical and physiological differences seen in a pregnant female. [5] **b)** Describe the indication and procedure of Postmortem Cesarean section. [5] — *DNB Jun 2022 P-I*

**18.** Discuss clinical features, diagnosis and management of ruptured ectopic pregnancy — *KUHS May 2022 P-III*

**19.** Discuss ED management of post-partum hemorrhage — *KUHS May 2022 P-III*

**20.** Discuss clinical features, diagnosis and management of HELLP syndrome. — *KUHS May 2022 P-IV*

**21.** **a)** Hyperemesis gravidarum: physiology and management in ED. [5] **b)** Management of post partum hemorrhage due to precipitous labor in ED. [5] — *DNB Dec 2021 P-II*

**22.** Physiological changes in pregnancy — *KUHS May 2021 P-I*

**23.** A 28-year-old female presents to the ER with vaginal bleeding. She has lost about 200-250 ml of blood. She has had a normal delivery about 48 hours prior to the presentation. **a)** Causes of post-


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partum haemorrhage. [2] **b)** Risk factors for post-partum haemorrhage. [2] **c)** Investigations and management. [4] **d)** Complications of post-partum haemorrhage. [2] — *DNB Dec 2020 P-II*

24. **a)** Hyperemesis gravidarum. [3] **b)** Diagnosis of thromboembolism in pregnancy. [4] **c)** Treatment of thromboembolic disease in pregnancy. [3] — *DNB Jun 2020 P-II*
25. Classify hypertensive disorders of pregnancy and describe management of eclampsia. — *KUHS Jun 2020 P-III*
26. Enumerate emergencies in the first 20 weeks of pregnancy. Mana gement of a patient with ectopic pregnancy. — *KUHS Jun 2020 P-III*
27. **b)** Describe abruptio placentae – pathophysiology, clinical presentation and ED management. [3] **c)** Enumerate the salient features of perimortem cesarean section. What are the additional features of maternal CPR? [4] — *DNB Dec 2019 P-II*
28. **a)** Discuss physiological changes in pregnancy relevant to managing emergency conditions. [5] — *DNB Jun 2019 P-I*
29. **a)** Enumerate causes of vaginal bleed in a woman at 32 weeks of pregnancy. [2] **b)** What is HELLP syndrome? [2] **c)** Criteria to diagnose pre-eclampsia. [3] **d)** Management of eclampsia. [3] — *DNB Jun 2019 P-II*
30. **a)** Enumerate emergences in the first 20 weeks of pregnancy. [3] **b)** Write in detail about management of a patient presenting with ectopic pregnancy. [7] — *DNB Dec 2018 P-II*
31. Septic abortion — *KUHS Oct 2018 P-III*
32. **a)** Enumerate emergencies in the first 20 weeks of pregnancy. [2] **b)** Pathophysiology of ectopic pregnancy. [2] **c)** Diagnosis of ectopic pregnancy. [3] **d)** Management of a patient with ectopic pregnancy. [3] — *DNB Jun 2018 P-II*
33. Physiologic changes in pregnancy — *KUHS Apr 2018 P-I*
34. **a)** Anatomic changes in pregnancy affecting airway management during pregnancy [2] **b)** Physiological changes in pregnancy relevant to resuscitation. [4] **c)** Discuss briefly special steps of cardiopulmonary resuscitation during pregnancy. [4] — *DNB Dec 2017 P-I*
35. **a)** Chest pain during third trimester of pregnancy [4] **b)** Severe preeclampsia [3] **c)** Abruptio placentae [3] — *DNB Dec 2017 P-II*
36. A young pregnant lady presents to the emergency with headache & her blood pressure is 200/110 mmg. **a)** Discuss differential diagnosis. [4] **b)** How will you evaluate this patient? [3] **c)** How will you manage this patient in ER? [3] — *DNB Jun 2017 P-III*
37. Maternal birth trauma. — *KUHS May 2017 P-III*
38. A 35-year-old multiparous woman presents with severe vaginal bleeding following vaginal delivery at 36 weeks. **a)** Define postpartum hemorrhage. [2] **b)** Possible causes of severe bleeding in this patient [3] **c)** Initial management in the Emergency Department. [3] **d)** Definitive management in case of continued bleeding. [2] — *DNB Dec 2016 P-II*
39. Preeclampsia — *KUHS Jun 2016 P-III*
40. Ectopic pregnancy with shock — *KUHS Jun 2015 P-III*
41. **[7 marks]** Post partum hemorrhage. — *TNMGR Oct 2025 P-III*
42. **[7 marks]** Abruptio placenta. — *TNMGR Jul 2023 P-III*

## 15.2 Gynaecological emergencies and sexual assault *(16 papers)*

1. Discuss etiology, clinical features, staging and treatment of Cervical Cancer. — *KUHS Jan 2025 P-III*
2. **a)** Abnormal uterine bleeding in a 30-year-old, non-pregnant female. [3] — *DNB Oct 2024 P-II*
3. Approach to vaginal bleeding in non-pregnant female — *KUHS Jun 2024 P-III*
4. **b)** Discuss the approach to vaginal bleeding in a non-pregnant woman. [5] — *DNB May 2024 P-II*
5. Examination of the sexually assault victim — *KUHS Jul 2023 P-I*


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6. **a)** Enumerate steps of assessment of sexual abuse victim in ED. [6] **b)** Emergency contraceptive guidelines. [4] *— DNB Apr 2023 P-II*
7. **a)** Describe the differential diagnosis and management of massive uterine bleeding in pregnant female. [5] *— DNB Jun 2022 P-II*
8. **a)** Approach to acute pelvic pain in a woman. [4] **b)** Briefly discuss differential diagnoses of vaginal bleeding in a non-pregnant adolescent. [3] **c)** Diagnostic algorithm of vaginal bleeding in a women with < 20 week pregnancy. [3] *— DNB Jun 2021 P-II*
9. Acute pelvic pain in women *— KUHS May 2021 P-III*
10. **a)** Examination of a victim of sexual assault in ED. [5] **b)** Role of contraception in a victim of rape. [5] *— DNB Jun 2020 P-II*
11. **a)** Enumerate the causes of vaginal bleed in a 16-year-old female. [3] *— DNB Dec 2019 P-II*
12. **a)** Causes of acute lower abdominal pain in a non- pregnant female. [2] **b)** Etio-pathogenesis of pelvic inflammatory disease. [2] **c)** Clinical features of pelvic inflammatory disease. [3] **d)** ED management of pelvic inflammatory disease. [3] *— DNB Jun 2019 P-II*
13. Female sexual abuse. *— KUHS Apr 2019 P-IV*
14. **a)** Triage of a victim of sexual assault [2] **b)** Assessment of female victim of sexual assault [5] **c)** Treatment of female victim of sexual assault [3] *— DNB Dec 2017 P-IV*
15. A 20 year old unmarried female patient comes to emergency department with acute severe lower abdominal pain: **a)** Enumerate causes of pain in the patient. [2] **b)** Clinical findings helpful in differential diagnosis. [3] **c)** How will you investigate this patient? [2] **d)** Outline management in Emergency department. [3] *— DNB Jun 2017 P-II*
16. **[7 marks]** Molar pregnancy. *— TNMGR Dec 2024 P-III*

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# 16. ENT, Ophthalmic, Dental and Skin Emergencies (77 questions)

## ★ Most-asked topics in this chapter

- Ophthalmic emergencies — ***asked in 27 papers***
- ENT emergencies — ***asked in 22 papers***
- Dermatological emergencies — ***asked in 18 papers***
- Dental and oral emergencies — ***asked in 10 papers***

## 16.1 ENT emergencies *(22 papers)*

**1.** Discuss the pathophysiology, causative organisms, clinical features and treatment of acute diffuse otitis externa. — *KUHS Nov 2025 P-I*

**2.** **a)** Draw a labeled diagram of the right tympanic membrane as viewed through an otoscope and outline the management of tympanic membrane perforation. [5] — *DNB Jun 2025 P-II*

**3.** **a)** Pathophysiology and microbiology of otitis media in adults. [3] **b)** Complications of otitis media. [5] **c)** Treatment of otitis media in adults. [2] — *DNB Oct 2024 P-II*

**4.** **c)** Malignant otitis externa. [3] — *DNB May 2024 P-II*

**5.** **a)** Discuss arterial blood supply of nasal septum and treatment for epistaxis. [5] — *DNB Oct 2023 P-II*

**6.** **b)** Management of foreign body in ear. [5] — *DNB Apr 2023 P-II*

**7.** **a)** Etiology and management of epistaxis. [6] **b)** Evaluation and management of retropharyngeal and peritonsillar abscess. [4] — *DNB Dec 2022 P-II*

**8.** **a)** Management of a foreign body in the nose. [2] **d)** Acute otitis media in adults. [2] — *DNB Dec 2022 P-II*

**9.** **b)** Describe the assessment and management of ludwig's angina. [5] — *DNB Jun 2022 P-II*

**10.** **a)** Draw arterial blood supply to medial wall of nose. [3] **b)** Describe management of epistaxis. [4] **c)** Approach to management of foreign body in nose. [3] — *DNB Jun 2021 P-II*

**11.** **a)** Infectious and non-infe ctious causes of sore throat. [2] **b)** Red flag symptoms and signs of acute sore throat. [2] **c)** Risk stratification and investigations for acute sore throat. [3] **d)** Empirical management of pa tient with acute sore throat. [3] — *DNB Dec 2020 P-II*

**12.** **a)** Approach to acute pain in ear. **c)** Malignant otitis externa. — *DNB Jun 2020 P-II*

**13.** Describe in detail about epistaxis and its management in ED — *KUHS Jun 2020 P-III*

**14.** Describe pathophysiology and microbiology of otitis media. Describe about complications of otitis media. — *KUHS Jun 2020 P-III*

**15.** **b)** Clinical features and management of peritonsillar abscess. [3] — *DNB Dec 2019 P-II*

**16.** **b)** Ludwig's angina. [4] — *DNB Jun 2019 P-II*

**17.** Epistaxis in elderly. How do you evaluate and manage. — *KUHS Apr 2019 P-III*

**18.** **a)** Describe patho-physiology of otitis media. [3] **b)** Write about microbiology of otitis media. [3] **c)** Write about acute and long term complications of otitis media. [4] — *DNB Dec 2018 P-II*

**19.** **a)** Write about anatomy of importance related to epistaxis. [3] **b)** Write about ED management of such cases. [7] — *DNB Dec 2018 P-II*

**20.** **a)** What are the causes of otalgia? [3] **b)** Pathophysiology and microbiology of otitis media. [2] **c)** Complications of otitis media. [3] **d)** ED treatment of otitis media. [2] — *DNB Jun 2018 P-II*

**21.** **a)** Draw a labeled diagram of middle ear. [4] **b)** What are the causes of "Otitis externa"? [2] **c)** How do you differentiate sensorineural deafness from conductive deafness? [4] — *DNB Jun 2017 P-I*

**22.** Management of epistaxis — *KUHS Jun 2016 P-III*

**23.** Carcinoma tongue with stridor-management — *KUHS Jun 2015 P-IV*

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**24.** **[7 marks]** Retropharyngeal abscess. — *TNMGR Oct 2025 P-III*

**25.** **[7 marks]** Posterior Epistaxis. — *TNMGR Jul 2023 P-III*

## 16.2 Ophthalmic emergencies *(27 papers)*

**1.** Discuss with diagram the pathophysiology of acute angle closure glaucoma, diagnosis and management. — *KUHS Nov 2025 P-I*

**2.** **a)** Orbital vs periorbital cellulitis. [5] **b)** Differential diagnosis of the red eye. [5] — *DNB Jun 2025 P-II*

**3.** **a)** Globe rupture. [2] **b)** Periorbital and orbital cellulitis. [4] **c)** Ocular ultrasonography. [4] — *DNB Oct 2024 P-II*

**4.** Acute painful visual loss — *KUHS Jun 2024 P-IV*

**5.** **a)** Describe utility of ocular ultrasound. [5] — *DNB May 2024 P-II*

**6.** **a)** Evaluation of eye in chemical injuries and treatment of alkali injuries to the eye. [5] **b)** Discuss differential diagnosis of visual loss. [5] — *DNB Oct 2023 P-II*

**7.** **a)** Differential diagnosis of a patient with painless loss of vision in ED. [5] **b)** Management of acute painful red eye. [5] — *DNB Apr 2023 P-II*

**8.** **c)** Acute red eye without loss of vision. [4] — *DNB Dec 2022 P-II*

**9.** **a)** Acute painful loss of vision. [5] **b)** Orbital cellulitis. [5] — *DNB Jun 2022 P-II*

**10.** **a)** Causes of acute onset diplopia and its management. [5] — *DNB Dec 2021 P-II*

**11.** **b)** ED management of a patient with suspected corneal injury. [5] — *DNB Dec 2021 P-II*

**12.** **a)** Differential diagnosis and management of acute loss of vision in emergency department. [7] **b)** Topical ophthalmologic medications in emergency department. [3] — *DNB Jun 2021 P-II*

**13.** Management of red eyes in casualty — *KUHS May 2021 P-III*

**14.** A 10-year-old boy presents to the ER with severe pain in his eye, watering and photophobia. He says that he was hit in the eye while playing ball. **a)** Differential diagnosis of acute painful eye. [2] **b)** USG in ocular trauma. [4] **c)** Management of corneal abrasion in the ER. [2] **d)** Management of chemical ocular injury in the ER. [2] — *DNB Dec 2020 P-II*

**15.** **a)** Describe normal anatomy of eye with diagram. [4] **b)** Orbital cellulitis. [4] **c)** Treatment of blunt eye trauma in ED. [2] — *DNB Jun 2020 P-II*

**16.** Chemical ocular injuries — *KUHS Jun 2020 P-IV*

**17.** **a)** Evaluation and management of penetrating eye injury in a young boy. [3] **b)** Enumerate the causes of keratoconjunctivitis and its management in emergency. [3] **c)** Seidel sign. [2] **d)** Discuss the approach to orbital cellulitis in a 65-year-old diabetic female. [2] — *DNB Dec 2019 P-II*

**18.** **a)** What are the causes of red eye? [3] **b)** How will you evaluate a patient with red eye? [3] **c)** Management of a patient with red eye. [4] — *DNB Jun 2019 P-II*

**19.** Foreign body in eye. — *KUHS Apr 2019 P-III*

**20.** Ocular chemical burns. — *KUHS Apr 2019 P-IV*

**21.** A 30-year-old patient is brought in ED with acute loss of vision. **a)** Enumerate causes if patient has painful vision loss. [5] **b)** Enumerate causes if he has painless loss of vision. [5] — *DNB Dec 2018 P-II*

**22.** Papilledema — *KUHS Oct 2018 P-I*

**23.** A 25 year old female presents with sudden loss of vision in her right eye. **a)** Describe briefly various causes of painless vision loss. [5] **b)** Describe briefly various causes of painful vision loss. [5] — *DNB Dec 2017 P-II*

**24.** A young boy presents to the emergency with painful red eye with photophobia: **a)** List the causes. [3] **b)** How will you evaluate a child for corneal abrasion? [3] **c)** Treatment of a child with chemical injury in the eye. [4] — *DNB Jun 2017 P-IV*

**25.** Corneal foreign bodies — *KUHS Jun 2016 P-III*

**26.** **[7 marks]** Acute angle closure glaucoma. — ***TNMGR Oct 2025 P-III · TNMGR Dec 2024 P-III [2×]***

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27. **[7 marks]** Open globe injury. — *TNMGR Dec 2024 P-III*

28. **[7 marks]** Acute painless loss of vision. — *TNMGR Jul 2023 P-III*

## 16.3 Dental and oral emergencies *(10 papers)*

1. **b)** Describe the optimal management of a completely displaced tooth, focusing on care at scene and emergency room treatment. [5] — *DNB Jun 2025 P-II*

2. **a)** Describe clinical features and management of acute necrotizing ulcerative gingivitis. [5] — *DNB May 2024 P-IV*

3. **b)** Tongue lacerations. [5] — *DNB Oct 2023 P-II*

4. **a)** Recommendations for reimplantation of avulsed teeth. [5] — *DNB Apr 2023 P-II*

5. **b)** Pre-hospital care for an avulsed tooth. [2] — *DNB Dec 2022 P-II*

6. **a)** Discuss the fractured tooth management in Emergency Department. [5] — *DNB Jun 2022 P-II*

7. **a)** Causes of TMJ (temporomandibular joint) dislocation and its management in ED. [5] **b)** Management of a periodontal abscess. [5] — *DNB Dec 2021 P-II*

8. **a)** Describe clinical features and management of acute necrotizing ulcerative gingivitis. [2] **c)** Management of temporo-mandibular joint dislocation in ED. [2] — *DNB Dec 2019 P-II*

9. **a)** Differentiating temporary teeth from permanent teeth. [2] **c)** Dental avulsion. [4] — *DNB Jun 2019 P-II*

10. **[7 marks]** Temporomandibular joint dislocation. — *TNMGR Jul 2023 P-III*

## 16.4 Dermatological emergencies *(18 papers)*

1. **b)** Stevens-Johnson syndrome. [5] — ***DNB Jun 2025 P-III · DNB Jun 2020 P-III · KUHS Apr 2019 P-IV [3×]***

2. Toxic epidermo necrolysis — ***KUHS Jun 2024 P-IV · KUHS Jun 2015 P-IV [2×]***

3. Toxic epidermal necrolysis — ***KUHS May 2021 P-II · KUHS Apr 2018 P-IV [2×]***

4. Bullous skin disorders — *KUHS Nov 2025 P-IV*

5. **a)** Modified Lynch algorithm for skin lesions. [6] **b)** Scabies. [4] — *DNB Oct 2024 P-III*

6. **a)** Enumerate the causes of toxic epidermal necrolysis. [3] **b)** Describe clinical features and treatment of epidermal necrolysis. [7] — *DNB Oct 2023 P-III*

7. **a)** Describe the differential diagnosis and management of acute onset vesiculobullous lesions. [6] **b)** Enumerate Lynch algorithm. [4] — *DNB Jun 2022 P-III*

8. **a)** Modified Lynch algorithm for erythematous rash. [3] **b)** Modified Lynch algorithm for life threatening rash. [4] **c)** Staphyococcal scalded skin syndrome. [3] — *DNB Jun 2021 P-III*

9. Describe in detail about toxic epidermal necrolysis and Steven Johnson syndrome. — *KUHS May 2021 P-IV*

10. **a)** Approach to acute onset diffuse bullous lesions. [3] **b)** Approach to acute onset erythematous rash in children. [2] — *DNB Dec 2019 P-III*

11. **a)** Toxic epidermal necrolysis. [5] **b)** Steven Johnson syndrome. [5] — *DNB Dec 2018 P-III*

12. **a)** Enumerate various generalized skin disorders. [2] **b)** Clinical features of erythema multiforme. [2] **c)** Clinical features of toxic epidermal necrolysis. [3] **d)** Management of a patient with toxic epidermal necrolysis. [3] — *DNB Jun 2018 P-III*

13. **a)** Enumerate causes of vesiculo-bullous skin lesions. [3] **b)** Clinical features of pemphigus vulgaris. [4] **c)** Treatment of pemphigus vulgaris. [3] — *DNB Jun 2017 P-III*

14. Steven johnson syndrome — *KUHS May 2017 P-IV*

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# 17. Paediatric Emergencies (103 questions)

## ★ Most-asked topics in this chapter

- Fever, sepsis, dehydration and seizures in children — ***asked in 23 papers***
- Other paediatric emergencies — ***asked in 21 papers***
- Paediatric respiratory and airway emergencies — ***asked in 18 papers***
- Paediatric trauma, child abuse and procedures — ***asked in 12 papers***
- Neonatal and paediatric resuscitation — ***asked in 11 papers***

## 17.1 Neonatal and paediatric resuscitation *(11 papers)*

1. **a)** Write about neonatal resuscitation. [5] — *DNB Jun 2025 P-IV*
2. **a)** Diagnostic evaluation and emergency department treatment of newborn with Tracheoesophageal fistula. [5] — *DNB Jun 2025 P-IV*
3. **b)** Neonatal seizures. [5] — *DNB Oct 2024 P-IV*
4. **a)** Differential diagnosis of jaundice in a neonate. [4] **b)** Discuss evaluation and management of fever in a neonate. [6] — *DNB May 2024 P-IV*
5. **a)** Discuss the steps of evaluation and treatment for neonatal cyanosis. [4] **b)** Differential diagnosis and management of apparent life threatening event in neonate. [6] — *DNB Apr 2023 P-IV*
6. **b)** Describe the algorithmic approach in neonatal seizures. [5] — *DNB Jun 2022 P-IV*
7. **a)** Discuss approach to a cyanotic baby. [5] — *DNB Jun 2022 P-IV*
8. **a)** Updated recommendations from 2020 AHA pediatric advanced and basic life support guidelines. [6] — *DNB Dec 2020 P-IV*
9. **b)** Broselow tape. [3] — *DNB Jun 2020 P-IV*
10. Describe about basic principles and steps of paediatrics advanced life support — *KUHS Jun 2020 P-II*
11. **a)** What is routine newborn care? [2] **b)** Discuss steps of neonatal resuscitation. [5] **c)** Vascular access in the newborn. [3] — *DNB Jun 2019 P-IV*
12. **a)** Discuss various steps to prepare a neonate for transport to other hospitals [4] **b)** Special considerations in neonates when preparing for transport [6] — *DNB Dec 2017 P-IV*
13. **a)** Tabulate differences in single rescuer cardiopulmonary resuscitation in a neonate, infant and child in cardiac arrest. [5] — *DNB Jun 2017 P-IV*

## 17.2 Paediatric respiratory and airway emergencies *(18 papers)*

1. **Long essay [15 marks]** Stridor in children – Etiology, Clinical assessment, Investigation and Management. — *TNMGR Oct 2025 P-IV*
2. **Essay [20 marks]** How will you approach a two-year-old child who presented with acute respiratory distress. Discuss the pathophysiology, diagnosis and management of acute severe asthma in a child. — *KUHS Jan 2025 P-I*
3. **Essay [20 marks]** Describe the anatomy of tracheobronchial tree. Enumerate the differences between adult and pediatric airway. Discuss ED management of epiglottitis — *KUHS Jan 2025 P-II*
4. **Long essay [15 marks]** Discuss in detail about Stridor in Children: etiology, differential diagnosis, management of each. — *TNMGR Jul 2023 P-IV*
5. **a)** Outline the approach to pediatric status asthmaticus. [5] **b)** Discuss the role of magnesium sulphate and ketamine. [5] — *DNB Dec 2025 P-IV*
6. **a)** PRAM-Pediatric respiratory assessment measure. [5] **b)** Write the ED algorithm of managing a child with bronchiolitis. [5] — *DNB Dec 2025 P-IV*
7. Discuss the etiology, clinical features, diagnosis and treatment of viral pneumonia in a preschool child. — *KUHS Nov 2025 P-II*


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8. **b)** Discuss differential diagnosis and treatment of severe croup in a 1-year-old child. [5] — *DNB Jun 2025 P-IV*

9. Airway rescue devices for children — *KUHS Jan 2025 P-II*

10. A 7-year-old female child is brought to ER with acute onset of breathing difficulty from one hour. The girl is a known case of childhood asthma on medical management whenever needed. **a)** Enumerate clinical possibilities for her present condition. [4] **b)** What will be your plan of stabilizing the patient? Also mention the doses of pharmacological agents. [6] — *DNB Apr 2023 P-IV*

11. **a)** Foreign body inhalation-emergency management. [5] — *DNB Apr 2023 P-II*

12. **a)** Discuss approach to acute stridor in a child. [5] — *DNB Jun 2022 P-IV*

13. Anatomy of pediatric airways-Diagnosis and treatment of airway foreign body in children — *KUHS May 2022 P-II*

14. A 5-year-old presents with fever, respiratory distress and drooling of saliva for two days. His oxygen saturation is 78%, BP 110/70 mmHg and heart rate 110/minute. **a)** Discuss the differential diagnosis in this case. [5] **b)** Discuss the management of each differential diagnosis. [5] — *DNB Jun 2021 P-IV*

15. Stridor in children — *KUHS Apr 2019 P-II*

16. A 2-year-old child presented with fever, drooling of saliva and stridor. **a)** Enumerate causes of stridor in infants and children [2] **b)** What is croup? [2] **c)** Clinical presentation of croup. [2] **d)** Diagnosis of croup. [2] **e)** Treatment of croup. [2] — *DNB Dec 2018 P-IV*

17. A two-year-old child presented with fever, drooling of saliva and stridor. **a)** Enumerate causes of stridor in infants and children. [2] **b)** What is croup? [1] **c)** Clinical presentation of croup. [2] **d)** Diagnosis of croup. [2] **e)** Treatment of croup. [3] — *DNB Jun 2018 P-IV*

18. A 2 year old child is brought with drooling and noisy breathing. **a)** Mention the differential diagnosis. [2] **b)** How will you prepare to secure the airway if needed? [5] **c)** Drug treatment of this child. [3] — *DNB Dec 2016 P-IV*

19. Diagnosis and treatment of airway foreign body in children — *KUHS Jun 2015 P-II*

20. **[7 marks]** Croup. — *TNMGR Oct 2025 P-IV*

21. **[7 marks]** **a)** Causes for stridor in infants. **b)** Diagnosis and treatment of Croup. — *TNMGR Dec 2024 P-IV*

## 17.3 Fever, sepsis, dehydration and seizures in children *(23 papers)*

1. **Long essay [15 marks]** 5-year-old boy presented to ED in drowsy state. Parents give history of abdomen pain with loose stools and severe thirst. O/E: child drowsy, sunken eyes, dry skin, CRT:>3 secs. HR:132/min with weak pulse s, BP:80/50 mmhg, SpO2: 96% in room air. **a)** Assess dehydration status and discuss on classification of dehydration. **b)** Causes for abdomen pain with loose stools and clinical features. **c)** Discuss on management and fluid therapy. — *TNMGR Dec 2024 P-IV*

2. Febrile seizures — ***TNMGR Oct 2025 P-IV · TNMGR Jul 2023 P-IV · KUHS May 2021 P-II · KUHS Jun 2015 P-II [4×]***

3. **a)** Discuss the ED management of febrile seizures in children. [5] **b)** Describe the role of antipyretics and benzodiazepines. [5] — *DNB Dec 2025 P-IV*

4. **a)** Describe the ED evaluation of pediatric dehydration. [5] **b)** Discuss fluid therapy in moderate vs severe dehydration. [5] — *DNB Dec 2025 P-IV*

5. Discuss etiology, diagnosis and management of child presenting with break through seizure in a known epileptic. — *KUHS Nov 2025 P-II*

6. **a)** Describe initial fluid resuscitation treatment and maintenance fluid therapy of acute severe dehydration in a 40 kg child due to diarrhea. [5] — *DNB Jun 2025 P-IV*

7. **a)** Approach to the evaluation of new-onset pediatric seizures and treatment algorithm for status epilepticus. [5] — *DNB Jun 2025 P-IV*

8. **a)** Approach to a febrile child with skin rash. [5] — *DNB Oct 2024 P-IV*


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9. Describe febrile seizure. Evaluate causes, investigation and treatment of 6 years old child with generalised tonic clonic seizure. What advice will you give to the care givers of this patient. — *KUHS Jun 2024 P-II*

10. **b)** Describe the management of status epilepticus in a neonate and an infant. [5] — *DNB May 2024 P-IV*

11. **b)** Evaluation and management of dehydration in a child presenting with diarrhoea to ED. [5] — *DNB Oct 2023 P-IV*

12. How will you evaluate and manage a 2 year child presenting to ED with a temperature of 101oF — *KUHS Jul 2023 P-II*

13. A 2 year young child is brought to the ER in unconscious state. He has been febrile for 2 days and had a seizure at home. **a)** What are the expected physical exam findings based on the differential diagnosis? [3] **b)** How will you investigate the child? [3] **c)** How will you stabilize the child in ED? [4] — *DNB Apr 2023 P-IV*

14. **a)** Evaluation and management of dehydration in a child presenting with diarrhea to ED. [5] — *DNB Dec 2021 P-IV*

15. A 2-year-old child presents with passage of watery stools for one day. **a)** Composition of oral rehydration solution. [2] **b)** Clinical features of various degrees of dehydration in this child. [4] **c)** Principles of management if child is severely dehydrated. [4] — *DNB Jun 2021 P-IV*

16. Evaluation and management of fever in neonates. — *KUHS May 2021 P-II*

17. A 1-year-old child presents to the ER with history of fever, abdominal pain, vomiting and bloody diarrhea since 1 day. Discuss: **a)** Differential diagnosis of bloody diarrhea in children. [4] **b)** What investigations would you ask for? [2] **c)** How would you treat a child with sepsis in the ER? [4] — *DNB Dec 2020 P-IV*

18. **a)** Evaluation and management of a neonate with fever. [5] **b)** Evaluation and management of a febrile infant between 1-12 months of age. [5] — *DNB Jun 2020 P-IV*

19. **a)** How will you clinically evaluate dehydration in children? [3] **b)** Treatment of dehydration according to severity. [4] **c)** Composition of reduced WHO ORS. [1] **d)** Maintenance phase for successfully rehydrated children. [2] — *DNB Jun 2019 P-IV*

20. Five months' child with acute gastroenteritis. — *KUHS Apr 2019 P-II*

21. **a)** Enumerate causes of vomiting by age. [3] **b)** Clinical guidelines for assessing dehydration in children. [3] **c)** How will you treat a case of mild to moderate dehydration in children? [4] — *DNB Dec 2018 P-IV*

22. **a)** Describe pediatric seizure disorder. [3] **b)** Write about their presentation. [3] **c)** Write its ED management. [4] — *DNB Dec 2018 P-IV*

23. Treatment of status epilepticus in children — *KUHS Oct 2018 P-II*

24. A 1 year old child weighing 7 kg presents with diarrhea for 2 days. **a)** How do you evaluate degree of dehydration? [3] **b)** What is the complication of oral rehydration solution? [3] **c)** Management of above mentioned child if he has severe dehydration. [4] — *DNB Jun 2017 P-IV*

## 17.4 Paediatric trauma, child abuse and procedures *(12 papers)*

1. **a)** Describe the use of point-of-care ultrasound in pediatric trauma. [5] **b)** Discuss the FAST protocol in children. [5] — *DNB Dec 2025 P-IV*

2. **a)** Evaluation of a child with suspected physical abuse. [5] — *DNB Oct 2024 P-IV*

3. **b)** Discuss child abuse. [5] — *DNB May 2024 P-IV*

4. **a)** Describe Salter-Harris classification of fractures. [5] — *DNB May 2024 P-IV*

5. **b)** What are the signs of potential child abuse? [5] — *DNB Oct 2023 P-IV*

6. **a)** Discuss the key differences between pediatric GCS versus adult GCS. [5] — *DNB Jun 2022 P-IV*

7. A 1-year-old female is brought to ER with history of fall from bed. Baby is crying and inconsolable. **a)** Describe the important anatomical and physiologic considerations while managing this patient?


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[3] **b)** Discuss PECARN versus CHALICE rules. [4] **c)** Describe injuries which would suggest child abuse. [3] — *DNB Jun 2021 P-IV*

8. **b)** Describe PECARN rule. [3] — *DNB Dec 2019 P-II*
9. **c)** Salter-Harris classification. [3] — *DNB Dec 2019 P-II*
10. **a)** Discuss types of neglect in children. [2] **b)** Risk factors for child maltreatment. [2] **c)** Diagnosis of physical abuse in child. [6] — *DNB Jun 2019 P-IV*
11. Toddler's fractures — *KUHS Apr 2018 P-II*
12. **a)** Principles of managing serious traumatic brain injury in children. [5] — *DNB Jun 2017 P-IV*
13. **a)** Indications for 'procedural sedation' in a child. [3] **b)** List preferred agents for procedural sedation in children. [3] **c)** What precautions / monitoring you would follow in a sedated child after procedural sedation? [4] — *DNB Jun 2017 P-IV*
14. A young child is brought to the emergency with multiple bruises: **a)** When would you suspect child abuse based on presence of multiple basis bruises? [3] **b)** What are the other injuries noted in abused children? [3] **c)** How would you investigate and treat an abused child? [4] — *DNB Jun 2017 P-IV*
15. Child abuse — *KUHS May 2017 P-IV*
16. **[7 marks]** Non-accidental injury in children. — *TNMGR Jul 2023 P-IV*

## 17.5 Other paediatric emergencies *(21 papers)*

1. **Essay [20 marks]** Describe the distinguishing principles of diseases in paediatric age. How would you organise and establish paediatric friendly emergency department. — *KUHS May 2017 P-II*
2. **a)** Management of a child with persistent drooling in the ED. [5] — ***DNB Oct 2023 P-IV · DNB Dec 2021 P-IV [2×]***
3. **a)** Discuss clinical features, diagnostic investigations and treatment of appendicitis in a 5-year-old child. [6] — *DNB Jun 2025 P-IV*
4. **b)** Slipped capital femoral epiphysis. [5] — *DNB Jun 2025 P-IV*
5. Discuss pathophysiology, clinical features, diagnosis and treatment of a one year old child with suspected intussusception. — *KUHS Jan 2025 P-III*
6. **a)** Pyloric stenosis. [4] **b)** Differential diagnosis and management of an intractable crying child. [6] — *DNB Oct 2024 P-IV*
7. **b)** Pediatric assessment triangle. [5] — *DNB Oct 2024 P-IV*
8. **b)** Enumerate the diagnostic criteria of Kawasaki disease. [5] — *DNB May 2024 P-IV*
9. **b)** Discuss the approach to recurrent vomiting in a 1 month old baby. [5] — *DNB May 2024 P-IV*
10. **a)** Discuss diagnostic criteria, laboratory evaluation and treatment of nephrotic syndrome in a child. [5] **b)** Discuss pathophysiology, clinical features and management of haemolytic uremic syndrome in a 9 year old child. [5] — *DNB Oct 2023 P-IV*
11. **a)** Evaluation of recurrent non bilious vomiting in an infant presenting to ED. [5] **b)** Management of an infant with acute onset abdominal distension. [5] — *DNB Apr 2023 P-IV*
12. **b)** Discuss approach to an inconsolable crying child with crush injury to foot. [5] — *DNB Jun 2022 P-IV*
13. Approach to a child coming to ED with history acute abdominal pain — *KUHS May 2022 P-II*
14. **a)** MISC in Covid affected children. [5] — *DNB Dec 2021 P-IV*
15. **a)** Pediatric abdominal surgical emergencies. [5] — *DNB Dec 2021 P-IV*
16. A 4-week-old presents with projectile non-bilious vomiting with preserved appetite and visible peristalsis. Baby is severely dehydrated. **a)** How will you rapidly assess and stabilize the patient? [2] **b)** What is your likely diagnosis and how will you confirm the diagnosis? [3] **c)** Discuss the differential diagnosis of recurrent vomiting in infancy, childhood and adolescence. [5] — *DNB Jun 2021 P-IV*


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**17.** A 2-year-old boy presents to the ER with high grade fever and refusal to bear weight on right leg since one day. There is no history of fall or trauma. He had sore throat about 3-4 days back. Child cries during movement of the right leg. Knee appears to be normal. Vac cination is complete as per schedule. There is no history suggestive of any significant medical illness: **a)** What is the likely differential diagnosis in the above case? [3] **b)** What is the Kocher's criteria? [2] **c)** What investigations would you ask for? [2] **d)** What would be the treatment for this child in the ER? [3] — *DNB Dec 2020 P-IV*

**18.** **b)** Pathophysiology of cyanotic spells (Tet spells). **c)** Management of a child with cyanotic spell. — *DNB Jun 2020 P-III*

**19.** **a)** Describe clinical features and management of intussusception in a child. [3] — *DNB Dec 2019 P-II*

**20.** **a)** Causes of jaundice in neonates and infants. [3] **b)** Pathogenesis of various causes of jaundice in children. [4] **c)** Approach to a child with jaundice. [3] — *DNB Jun 2019 P-IV*

**21.** A 7-month old male child presented to the ED with episodes of crying spells and red coloured stools. His mother noticed a mass in the right lower quadrant of abdomen. **a)** What are the possible diagnoses? [3] **b)** How do you investigate this child? [4] **c)** How do you manage the child in ED? [3] — *DNB Jun 2018 P-IV*

**22.** **a)** What is Sudden Infant Death Syndrome(SIDS). [2] **b)** Enumerate various causes for SIDS. [3] **c)** What are the risk factors for SIDS? [3] **d)** How will you prevent SIDS? [2] — *DNB Jun 2018 P-IV*

**23.** **a)** Causes of abdominal pain in neonates and young infants. [3] **b)** M ajor life-threatening causes of abdominal pain in neonates and young infants. [7] — *DNB Jun 2018 P-IV*

**24.** A 2 year old child was brought to ED with complaints of fever for 6 days associated with rash over the trunk and extremities. On examination, there is conjunctival congestion without any discharge and cervical lymphadenopathy. **a)** What is the most probable diagnosis? [1] **b)** What are the diagnostic criteria for this illness? [4] **c)** What are the complications? [3] **d)** How will you manage this child? [2] — *DNB Dec 2017 P-IV*

**25.** **a)** List 6 common symptoms and signs of increased intracranial pressure in infants. [3] **b)** What is an impact seizure? [1] **c)** Setting-sun sign. [2] **d)** Outline the management of hydrocephalus in infants. [4] — *DNB Dec 2016 P-IV*

**26.** Recognition and management of a sick child — *KUHS Jun 2016 P-II*

**27.** **[7 marks]** Brief Resolved Unexplained Event. — *TNMGR Oct 2025 P-IV*

**28.** **[7 marks]** Intussusception. — *TNMGR Oct 2025 P-IV*

**29.** **[7 marks]** Button Battery (BB) ingestion in children. — *TNMGR Jul 2023 P-IV*

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# 18. Haematology, Oncology and Allergy (69 questions)

## ★ Most-asked topics in this chapter

- Bleeding disorders, anticoagulants and transfusion — ***asked in 29 papers***
- Oncological emergencies — ***asked in 15 papers***
- Anaemia, sickle cell and haematological emergencies — ***asked in 11 papers***
- Anaphylaxis and angioedema — ***asked in 11 papers***

## 18.1 Bleeding disorders, anticoagulants and transfusion *(29 papers)*

**1.** **Essay [20 marks]** Outline the clinical evaluation of a bleeding patient in ED. Add a note on laboratory diagnosis and management of DIC. — *KUHS Apr 2018 P-IV*

**2.** Massive blood transfusion — ***KUHS Jan 2025 P-II · KUHS Oct 2018 P-IV [2×]***

**3.** **a)** Interpretation of various components of waveform produced by thromboelastography. [5] — ***DNB Oct 2024 P-IV · DNB Jun 2021 P-I [2×]***

**4.** Tests of haemostasis — ***KUHS Oct 2018 P-I · KUHS Oct 2018 P-IV [2×]***

**5.** Pathophysiology and lab diagnosis and management of disseminated intravascular coagulation — *KUHS Nov 2025 P-IV*

**6.** Blood transfusion complications — *KUHS Nov 2025 P-IV*

**7.** Dabigatran — *KUHS Nov 2025 P-IV*

**8.** What is Disseminated Intravascular Coagulation (DIC). Discuss briefly the causes, pathological and diagnostic finding in a patient presenting with DIC to ED. — *KUHS Jan 2025 P-I*

**9.** Define Transfusion Related Acute Lung Injury (TRALI) and its management. — *KUHS Jan 2025 P-IV*

**10.** **a)** Aetiopathogenesis of disseminated intravascular coagulation. [4] **b)** Diagnosis of disseminated intravascular coagulation. [2] **c)** Management of a patient with disseminated intravascular coagulation. [4] — *DNB Oct 2024 P-III*

**11.** **a)** Coagulation pathways. [5] **b)** Newer oral anticoagulants. [3] **c)** Antidotes for newer anticoagulants. [2] — *DNB Oct 2024 P-I*

**12.** Fresh frozen plasma — *KUHS Jun 2024 P-IV*

**13.** **a)** Describe the pathophysiology of disseminated extravascular coagulation. [5] **b)** Draw, label and describe normal thromboelastogram. [5] — *DNB May 2024 P-I*

**14.** **a)** Describe the mechanism of action, indications, contraindications and complications of Tranexamic acid. [6] **b)** Describe mechansim of action and complications of heparin. [4] — *DNB May 2024 P-I*

**15.** **a)** Discuss tests of hemostasis and its clinical correlations for a patient with a suspected abnormal bleeding disorder. [5] — *DNB Oct 2023 P-I*

**16.** Auto transfusion — *KUHS Jul 2023 P-I*

**17.** Complication of blood transfusion. — *KUHS Jul 2023 P-IV*

**18.** **c)** Pathophysiology of acute blood transfusion hemolytic reaction. [3] — *DNB Dec 2022 P-I*

**19.** **a)** Describe coagulation cascade and approach to a bleeding patient on warfarin. [5] — *DNB Jun 2022 P-III*

**20.** **a)** Evaluation and management of DIC. [5] — *DNB Dec 2021 P-III*

**21.** **a)** Evaluation and management of blood transfusion reactions in ED. [5] — *DNB Dec 2021 P-III*

**22.** Explain about haemophilia and von Willebrand 's disease. Describe about general principle and specific treatment of haemophilia patients. — *KUHS May 2021 P-IV*

**23.** **a)** Physiology of haemostasis. [4] **b)** What are the tests for primary and secondary h a emostasis? [2] **c)** v on Willebrand disease. [4] — *DNB Dec 2020 P-I*

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24. **c)** Blood component therapy in anticoagulant induced upper GI bleeding in ED. [3] — *DNB Dec 2019 P-III*

25. **a)** Draw intrinsic and extrinsic coagulation pathways and fibrinolysis pathway. [4] **b)** Complications of heparin. [3] **c)** Management of warfarin-induced bleeding. [3] — *DNB Jun 2019 P-III*

26. **a)** What are two different classes of novel oral anticoagulants (NOAC) and enumerate commonly used drugs of each class? [2] **b)** Role of NOAC in patients with atrial fibrillation. [2] **d)** HAS-BLED score. [3] — *DNB Jun 2019 P-IV*

27. Describe the management of mismatched blood transfusion in ED. — *KUHS Apr 2019 P-I*

28. Acute blood transfusion reactions and its management. — *KUHS Apr 2019 P-IV*

29. Pathophysiology of disseminated intravascular coagulation — *KUHS Oct 2018 P-IV*

30. **a)** Enumerate i nherited and acquired clo tting disorders (thrombophilia). [3] **b)** Pathophysiology of hemophilia A [2] **c)** Clinical features of hemophilia A [2] **d)** Management of a patient with hemophilia presenting with hemarthrosis. [3] — *DNB Jun 2018 P-III*

31. Complications of blood transfusion — *KUHS May 2017 P-IV*

32. Criteria for blood component transfusion — *KUHS Jun 2016 P-IV*

## 18.2 Anaemia, sickle cell and haematological emergencies *(11 papers)*

1. Thrombocytopenia — ***KUHS Apr 2019 P-IV · KUHS Jun 2015 P-IV [2×]***

2. Discuss acquired causes of thrombocytopenia and its management — *KUHS Jan 2025 P-II*

3. Discuss about haemolytic uremic syndrome and thrombotic thrombocytopenia purpura. — *KUHS Jan 2025 P-IV*

4. **b)** Discuss the pathophysiology and management of priapism in patients with sickle cell disease. [4] — *DNB May 2024 P-II*

5. **a)** Discuss differential diagnosis of acute intravascular hemolysis. [5] — *DNB Dec 2022 P-III*

6. **a)** Acute vaso-occlusive crisis in sickle cell disease. [5] — *DNB Dec 2022 P-III*

7. **a)** Peripheral blood smear examination. [5] **b)** Autoimmune hemolytic anemia. [5] — *DNB Jun 2020 P-III*

8. **a)** Describe clinical features and management of sickle cell crisis. [4] — *DNB Dec 2019 P-III*

9. Emergency department presentation of Sickle cell disease — *KUHS Oct 2018 P-IV*

10. Discuss the following in a child with sickle cell disease: **a)** Vaso-occlusive crisis [4] **b)** Fever [3] **c)** Neurologic complaints [3] — *DNB Dec 2017 P-IV*

11. **[7 marks]** Sickle cell crisis. — *TNMGR Oct 2025 P-II*

## 18.3 Oncological emergencies *(15 papers)*

1. **Essay [20 marks]** Classify emergency complications of malignancy. How would you manage complications related to biochemical derangements. — *KUHS Jun 2020 P-IV*

2. Tumour lysis syndrome — ***TNMGR Dec 2024 P-II · KUHS Apr 2018 P-IV [2×]***

3. **a)** Discuss the diagnostic criteria and ED management of tumour lysis syndrome. [5] **b)** Describe the management of hypercalcemia and hyperuricemia in this patient. [5] — *DNB Dec 2025 P-III*

4. **a)** Discuss laboratory investigations and treatment of Tumor Lysis syndrome in a 11-year-old child with cancer on chemotherapy. [5] — *DNB Jun 2025 P-IV*

5. There is a case of multiple myeloma. He developed hypercalcemia and ARF. Describe the approach to acute management of such patient. — *KUHS Jan 2025 P-IV*

6. **b)** Symptom management in patients with terminal cancer. [3] — *DNB Oct 2024 P-IV*

7. Discuss oncological emergencies in a patient on chemotherapy — *KUHS Jun 2024 P-IV*

8. **b)** Discuss the diagnosis and management of tumor lysis syndrome. [5] — *DNB May 2024 P-III*

9. **a)** Briefly discuss the management of sepsis in patients with febrile neutropenia in emergency department. [5] — *DNB Jun 2022 P-III*


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10. **a)** Discuss Cairo Bishops criteria. [5] — *DNB Jun 2022 P-III*
11. A young female patient presents with acute onset tetanic spasms of hands and reduced urine output preceded by nausea and muscle weakness. The lab investigation shows a WBC count of 2,50,000/µL. **a)** Discuss the assessment and management of this patient. [7] **b)** Describe Cairo-Bishop criteria. [3] — *DNB Jun 2021 P-III*
12. **b)** ED physician role in management of febrile neutropenia. [3] — *DNB Dec 2019 P-III*
13. **a)** Pathophysiology of tumour lysis syndrome. [3] **b)** Clinical features of tumour lysis syndrome. [3] **c)** Management of tumour lysis syndrome. [4] — *DNB Jun 2019 P-I*
14. Emergency complications of malignancy — *KUHS May 2017 P-IV*
15. **[7 marks]** Febrile Neutropenia. — *TNMGR Jul 2023 P-II*

## 18.4 Anaphylaxis and angioedema *(11 papers)*

1. **Long essay [15 marks]** Anaphylaxis: Diagnostic criteria, pathophysiology, laboratory investigations and management. — *TNMGR Jul 2023 P-II*
2. **a)** Emergency department management of anaphylaxis. [3] — *DNB Jun 2025 P-III*
3. Classify hyper sensitivity reactions. Describe the pathogenesis, clinical features and management of anaphylactic reactions. — *KUHS Jan 2025 P-I*
4. Discuss guidelines for diagnosis and treatment of contrast reactions. — *KUHS Jan 2025 P-III*
5. **a)** Write all clinical criteria to diagnose anaphylaxis. [5] **b)** Write clinical picture of anaphylactic shock. [2] **c)** Treatment in case of acute anaphylaxis reaction. [3] — *DNB Oct 2024 P-I*
6. **a)** Pathophysiology of anaphylaxis. [3] **b)** Diagnostic criteria for anaphylaxis. [3] — *DNB Dec 2022 P-I*
7. ED management of anaphylaxis — *KUHS May 2022 P-I*
8. **b)** Management of vaccine induced anaphylaxis. [5] — *DNB Dec 2021 P-I*
9. **a)** Clinical criteria for anaphylaxis. [3] **b)** Enumerate pathophysiology of anaphylaxis. [2] **c)** Current treatment of anaphylaxis. [5] — *DNB Jun 2019 P-I*
10. **a)** Common causes and pathophysiology of anaphylaxis. [5] **b)** Clinical criteria for its diagnosis. [3] **c)** Write about 2 drugs used as first-line therapy. [2] — *DNB Dec 2016 P-I*
11. **[7 marks]** Angioedema. — *TNMGR Dec 2024 P-II*

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# 19. Psychiatric, Geriatric and Special Populations (36 questions)

## ★ Most-asked topics in this chapter

- Psychiatric emergencies, agitation and violence — ***asked in 22 papers***
- Alcohol and substance use emergencies — ***asked in 9 papers***
- Geriatric emergencies — ***asked in 6 papers***

## 19.1 Psychiatric emergencies, agitation and violence *(22 papers)*

**1.** **b)** Discuss rapid tranquilization in emergency room for combative patients. [5] — *DNB Jun 2025 P-III*

**2.** Describe about emergency psychiatric assessment steps. Describe about medical evaluation of psychiatric patients and how to do assessment of harm to self and other in acute psychiatric emergencies. — *KUHS Jan 2025 P-IV*

**3.** Describe about pharmacology of agitation management — *KUHS Jan 2025 P-IV*

**4.** **a)** Anorexia nervosa. [3] — *DNB Oct 2024 P-IV*

**5.** **b)** Health consequences of intimate partner violence. [3] — *DNB Oct 2024 P-III*

**6.** Physical and chemical restraints — *KUHS Jul 2023 P-I*

**7.** Approach to violent patient in ED. — *KUHS Jul 2023 P-IV*

**8.** **a)** Discuss the assessment and management of agitated patient. [5] — *DNB Jun 2022 P-III*

**9.** Discuss rapid tranquilization in ED for combative patients — *KUHS May 2022 P-I*

**10.** Outline Mental Status Examination in ED. Discuss Rapid Tranquilization in ED. — *KUHS May 2022 P-IV*

**11.** **b)** Types of restraints to calm an agitated 14 year old girl in ED. [5] — *DNB Dec 2021 P-III*

**12.** A 16-year-old presents to the emergency with breathlessness, palpitation, sweating and tremors. On examination, Chvostek's sign and Trousseau's signs are present. **a)** Classify anxiety disorders as per DSM-IV. [3] **b)** Discuss the assessment and management of this case in the emergency department. [5] **c)** How will you differentiate an organic anxiety disorder from a primary anxiety disorder? [2] — *DNB Jun 2021 P-III*

**13.** Describe about pharmacology of importance of medicines used in management of acute agitated patients. — *KUHS May 2021 P-IV*

**14.** A 27-year-old is brought to the ER by his parents. He is very agitated and combative. **a)** Approach to a patient with acute agitation in the ER. [6] **b)** Restraints in the ER. [4] — *DNB Dec 2020 P-III*

**15.** **c)** Panic disorder – presentation and treatment. [2] — *DNB Dec 2019 P-III*

**16.** **c)** Factors and mitigation strategy of violence in emergency department. [4] — *DNB Dec 2019 P-IV*

**17.** **a)** Write about emergency psychiatric assessment steps. [3] **b)** Write about medical evaluation of psychiatric patient. [3] **c)** How to assess potential harm to self and others in acute psychiatric emergency? [4] — *DNB Dec 2018 P-III*

**18.** Schizophrenia — *KUHS Oct 2018 P-IV*

**19.** A 22-year-old medical student presented with an attempted suicide. He had attempted suicide twice before but was unsuccessful. He says he feel depressed. **a)** How will you assess suicide risk in this patient? [5] **b)** How will you plan ED disposition? [5] — *DNB Jun 2018 P-III*

**20.** Factitious disorders — *KUHS Apr 2018 P-IV*

**21.** Violent patient — *KUHS Jun 2015 P-IV*

**22.** **[7 marks]** Acute agitation in ED. — *TNMGR Oct 2025 P-II*

**23.** **[7 marks]** Discuss the protocol to be followed for restraining and sedating a patient with acute behavioural disturbance in ED. Outline the complications. — *TNMGR Dec 2024 P-IV*


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## 19.2 Alcohol and substance use emergencies *(9 papers)*

1. Delirium t remens. — ***KUHS Jul 2023 P-IV · KUHS Apr 2019 P-IV [2×]***
2. **c)** Pharmacologic management of alcohol use disorder. [3] — *DNB Oct 2024 P-III*
3. **a)** Emergencies in an injection drug user. [5] — *DNB May 2024 P-III*
4. **b)** Management of Cannabinoid hyperemesis syndrome. [5] — *DNB Dec 2021 P-III*
5. Describe about acute withdrawal (alcohol, benzodiazepines and opiates) and intoxication syndrome — *KUHS May 2021 P-IV*
6. Alcohol withdraw a l seizures. — *KUHS Apr 2019 P-III*
7. **a)** Diagnostic criteria and severity assessment for Substance use disorders based on the Diagnostic and Statistical Manual of Mental Disorders [4] **b)** Enumerate different alcohol withdrawal syndromes [2] **c)** ED management of alcohol withdrawal syndrome [4] — *DNB Dec 2017 P-IV*
8. Diagnosis and management of alcohol withdrawal — *KUHS May 2017 P-IV*

## 19.3 Geriatric emergencies *(6 papers)*

1. **a)** Etiology, evaluation and management of an elderly patient with acute delirium. [5] — ***DNB Oct 2023 P-III · DNB Dec 2021 P-III [2×]***
2. **a)** Describe various categories of elder abuse. [4] — *DNB Oct 2024 P-III*
3. **b)** Discuss elderly abuse. [5] — *DNB May 2024 P-III*
4. **c)** Physiological changes in elderly persons relevant to emergencies. [4] — *DNB Dec 2022 P-I*
5. Elderly abuse — *KUHS Oct 2018 P-IV*

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# 20. Applied Basic Sciences (120 questions)

## ★ Most-asked topics in this chapter

- Applied pharmacology — ***asked in 19 papers***
- Applied physiology — ***asked in 18 papers***
- Applied anatomy — ***asked in 13 papers***
- Applied biochemistry, pathology and microbiology — ***asked in 4 papers***

## 20.1 Applied anatomy *(13 papers)*

**1.** Draw diagrams of: **a)** Brachial plexus. [6] **b)** Compartments of lower leg. [4] — *DNB Oct 2024 P-I*

**2.** **a)** Draw and describe inguinal canal. [5] **b)** Describe the pathophysiology of inguinal hernias. [5] — *DNB May 2024 P-I*

**3.** **a)** Draw, label and describe functions of various components of rotator cuff. [5] **b)** Describe various clinical methods of assessment of rotator cuff injury. [5] — *DNB May 2024 P-I*

**4.** **a)** Draw and label brachial plexus. [4] — *DNB May 2024 P-I*

**5.** **a)** Draw, label and describe the clinical implications of porto-systemic anastomosis. [6] — *DNB May 2024 P-I*

**6.** **a)** Anatomy of neck relevant to trauma. [5] — *DNB Dec 2022 P-I*

**7.** **a)** Draw and label circle of Willis. [5] — *DNB Jun 2022 P-I*

**8.** **a)** Draw a labelled diagram of knee joint and describe various tests to evaluate it clinically. [5] **b)** Draw a labelled diagram and describe the clinical significance of Femoral triangle. [5] — *DNB Jun 2022 P-I*

**9.** **b)** Draw, label and locate the lesion in visual pathway in right homonymous hemianopia. [5] — *DNB Jun 2022 P-I*

**10.** **a)** Draw an anatomical diagram of aortic arch and its branches. [5] — *DNB Dec 2021 P-I*

**11.** **a)** Anatomy of intrinsic muscles of the hand. [5] — *DNB Dec 2021 P-I*

**12.** **a)** Anatomy of coronary circulation. [5] — *DNB Dec 2021 P-I*

**13.** **a)** Draw a well-labelled diagram of circle of Willis. [4] — *DNB Dec 2019 P-I*

**14.** **b)** Describe the anatomy of coronary circulation. [4] — *DNB Dec 2019 P-I*

**15.** **a)** Blood supply of spinal cord. [3] **b)** Labelled diagram of transverse section of spinal cord at the level of dorsal-6 (thoracic-6) vertebra. [3] — *DNB Jun 2019 P-I*

**16.** **a)** Draw a labeled diagram of portal venous system. [3] — *DNB Jun 2017 P-I*

**17.** **a)** Anatomy of wrist and hand as relevant to emergency physician. [4] **b)** Nerve supply of various muscles of hands. [3] **c)** Action of various muscles of hand. [3] — *DNB Dec 2016 P-I*

**18.** Blood supply to heart — *KUHS Jun 2015 P-I*

**19.** **[5 marks]** Anatomy: Knee joint anatomy. — *TNMGR Oct 2025 P-I*

**20.** **[5 marks]** Anatomy: Abdominal aorta branches. — *TNMGR Oct 2025 P-I*

**21.** **[5 marks]** Anatomy: Spinal cord anatomy. — *TNMGR Oct 2025 P-I*

**22.** **[5 marks]** Anatomy: Rotator cuff anatomy. — *TNMGR Oct 2025 P-I*

**23.** **[5 marks]** Anatomy: Coronary circulation with background of Acute Coronary Syndrome. — *TNMGR Dec 2024 P-I*

**24.** **[5 marks]** Anatomy: Leg compartment for evaluation of Compartment Syndrome. — *TNMGR Dec 2024 P-I*

**25.** **[5 marks]** Anatomy: Esophagus with a backdrop of Foreign body Obstruction. — *TNMGR Dec 2024 P-I*

**26.** **[5 marks]** Anatomy: Male Genital System. — *TNMGR Dec 2024 P-I*

**27.** **[5 marks]** Anatomy: Discuss in detail about Coronary circulation. — *TNMGR Jul 2023 P-I*

**28.** **[5 marks]** Anatomy: Triangle of safety and its importance. — *TNMGR Jul 2023 P-I*


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29. **[5 marks]** Anatomy: Explain on Keisselbach's plexus and its importance in nasal bleeding. — *TNMGR Jul 2023 P-I*

30. **[5 marks]** Anatomy: Note on Portocaval anastomosis and its various anatomical sites. — *TNMGR Jul 2023 P-I*

## 20.2 Applied physiology *(18 papers)*

1. **b)** Explain the physiological basis of hypoxic pulmonary vasoconstriction. [4] — *DNB Dec 2025 P-I*
2. **a)** Describe the oxygen-haemoglobin dissociation curve with the help of a diagram and its clinical implications. [5] **b)** Explain the Bohr and Haldane effects. [5] — *DNB Dec 2025 P-I*
3. Describe the oxyhemoglobin dissociation curve with its clinical implications. How do you determine the oxygen saturation and content. What is the clinical significance — *KUHS Jan 2025 P-I*
4. **a)** Draw and label oxyhemoglobin dissociation curve and discuss factors affecting this curve. [5] — *DNB Oct 2023 P-I*
5. **a)** Alveolar-arterial oxygen gradient. [4] — *DNB Apr 2023 P-I*
6. **a)** Draw a diagram and describe the physiology of lung volumes and capacities. [5] — *DNB Jun 2022 P-I*
7. **a)** Draw, label and describe counter current mechanism. [5] — *DNB Jun 2022 P-I*
8. **a)** Physiological principles of respiration. [5] — *DNB Dec 2021 P-I*
9. **a)** Physiology of cerebral circulation. [5] — *DNB Dec 2021 P-I*
10. **a)** Physiology of regulation of intra cerebral pressure. [5] — *DNB Dec 2021 P-I*
11. **b)** Frank Starling law and Poiseuille law application in ER. [5] — *DNB Dec 2021 P-I*
12. **a)** Draw oxygen hemoglobin dissociation curve and discuss the factors affecting it. [4] — *DNB Jun 2021 P-I*
13. **a)** Physiology of blood flow in the heart. [5] — *DNB Dec 2020 P-I*
14. **a)** Physiology of urine formation. [4] — *DNB Dec 2020 P-I*
15. **b)** Describe Monro-Kellie doctrine and autoregulation. [3] — *DNB Dec 2019 P-I*
16. **a)** Describe the pathophysiology of fever in pediatrics and elderly population. [4] — *DNB Dec 2019 P-I*
17. **a)** Jugular venous pulsations, waves and its clinical significance. [4] — *DNB Dec 2018 P-I*
18. **a)** Explain normal oxygen dissociation curve. [4] **b)** Factors causing shifts in oxygen dissociation curve [3] **c)** Clinical applications of central venous oxygen saturation [3] — *DNB Dec 2017 P-I*
19. **a)** Describe various volumes given by a spirometer [3] **b)** Define anatomic, physiologic and mechanical dead spaces [3] **c)** Clinical importance of various dead spaces during invasive ventilation [4] — *DNB Dec 2017 P-I*
20. **a)** What are baroreceptors? [2] **b)** Common locations of baroreceptors in body. [2] **c)** Baroreflex. [3] — *DNB Jun 2017 P-I*
21. Cerebral auto regulation — *KUHS May 2017 P-III*
22. **b)** Oxygen-hemoglobin dissociation curve. [3] — *DNB Dec 2016 P-I*
23. Lung volumes — *KUHS Jun 2016 P-I*
24. **[5 marks]** Physiology: Cardiac cycle. — *TNMGR Oct 2025 P-I*
25. **[5 marks]** Physiology: Potassium balance. — *TNMGR Oct 2025 P-I*
26. **[5 marks]** Physiology: Ventilation perfusion relationship. — *TNMGR Oct 2025 P-I*
27. **[5 marks]** Physiology: Cerebral autoregulation. — *TNMGR Oct 2025 P-I*
28. **[5 marks]** Physiology: Calcium homeostasis. — *TNMGR Dec 2024 P-I*
29. **[5 marks]** Physiology: Acute Heart failure. — *TNMGR Dec 2024 P-I*
30. **[5 marks]** Physiology: Hypercapnia. — *TNMGR Dec 2024 P-I*
31. **[5 marks]** Physiology: Adrenal gland. — *TNMGR Dec 2024 P-I*


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32. **[5 marks]** Physiology: Explain about fluid compartments in the body. — *TNMGR Jul 2023 P-I*
33. **[5 marks]** Physiology: Alverolar ventilation. — *TNMGR Jul 2023 P-I*
34. **[5 marks]** Physiology: Pathophysiology of Cardiogenic shock. — *TNMGR Jul 2023 P-I*
35. **[5 marks]** Physiology: Oxyhemoglobin dissociation curve. — *TNMGR Jul 2023 P-I*

## 20.3 Applied pharmacology *(19 papers)*

1. **b)** Describe the mechanism of action and adverse effects of local anesthetics. [5] — *DNB Dec 2025 P-I*
2. **a)** Describe the pharmacodynamics and pharmacokinetics of amiodarone. [5] — *DNB Dec 2025 P-I*
3. **a)** Pharmacology and clinical use of class IV anti-arrhythmic drugs. [5] **b)** Discuss clinical indications and adverse effects of intravenous amiodarone. [5] — *DNB Oct 2023 P-I*
4. Class III anti arrythmic drugs — *KUHS Jul 2023 P-I*
5. **b)** Mechanism of action of drugs used in ED to manage arrhythmias. [6] — *DNB Apr 2023 P-I*
6. **a)** Classification of anti-arrhythmic agents. [4] — *DNB Dec 2022 P-I*
7. **b)** What is the mechanism of action of various classes of diuretic drugs? [4] **c)** What are the complications of diuretics? [2] — *DNB Dec 2020 P-I*
8. **a)** Anticonvulsants. [5] **b)** Anti-arrhythmic drugs. [5] — *DNB Dec 2020 P-I*
9. **a)** Antiplatelet drugs. [3] — *DNB Jun 2020 P-I*
10. **a)** What is an adverse drug reaction? [2] **b)** Classification of adverse drug reactions. [2] **c)** Pathophysiology of adverse drug reactions. [3] **d)** What is P harmac ovigilance? [3] — *DNB Jun 2018 P-I*
11. Pharmacology of fibrinolytics used in emergency department — *KUHS Apr 2018 P-I*
12. **a)** Vaughan-Williams classification of anti-arrhythmic agents [3] **b)** Discuss briefly about class I anti-arrhythmic agents [4] **c)** Discuss briefly about class III anti-arrhythmic agents [3] — *DNB Dec 2017 P-I*
13. **a)** Bioavailability of a drug. [2] **b)** 'First pass effect' of a drug. [4] **c)** Clinical implications of half life measurement of a drug. [4] — *DNB Jun 2017 P-I*
14. Procainamide — *KUHS May 2017 P-I*
15. Fibrinolytic agents — *KUHS May 2017 P-II*
16. **a)** Name three low-molecular heparins alongwith their doses. [3] **b)** Mechanism of action of unfractionated and low-molecular weight heparin. [3] **c)** Methods to monitor therapy with unfractionated heparin. [4] — *DNB Dec 2016 P-I*
17. Cyclophosphamide — *KUHS Jun 2016 P-IV*
18. **[5 marks]** Pharmacology: Antiepileptics classification. — *TNMGR Oct 2025 P-I*
19. **[5 marks]** Pharmacology: Adrenaline. — *TNMGR Oct 2025 P-I*
20. **[5 marks]** Pharmacology: Zero-order metabolism. — *TNMGR Oct 2025 P-I*
21. **[7 marks]** Tenecteplase use in ED. — *TNMGR Oct 2025 P-IV*
22. **[5 marks]** Pharmacology: Norepinephrine. — *TNMGR Dec 2024 P-I*
23. **[5 marks]** Pharmacology: Amiodarone. — *TNMGR Dec 2024 P-I*
24. **[5 marks]** Pharmacology: Antiplatelet agents. — *TNMGR Dec 2024 P-I*
25. **[5 marks]** Pharmacology: List the medications used for procedural sedation with their doses and complications. — *TNMGR Jul 2023 P-I*
26. **[5 marks]** Pharmacology: Role of Magnesium Sulphate in Eclampsia. — *TNMGR Jul 2023 P-I*
27. **[5 marks]** Pharmacology: Discuss the cause, signs and treatment of Local Anesthetic Toxicity. — *TNMGR Jul 2023 P-I*

## 20.4 Applied biochemistry, pathology and microbiology *(4 papers)*

1. Nutrition in critical care — *KUHS May 2017 P-II*


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2. **[5 marks]** Biochemistry: Neurotransmitters. — *TNMGR Oct 2025 P-I*
3. **[5 marks]** Biochemistry: Krebs cycle. — *TNMGR Oct 2025 P-I*
4. **[5 marks]** Biochemistry: Ketosis. — *TNMGR Oct 2025 P-I*
5. **[5 marks]** Pathology: Coagulation cascade. — *TNMGR Oct 2025 P-I*
6. **[5 marks]** Pathology: Type IV hypersensitivity reactions. — *TNMGR Oct 2025 P-I*
7. **[5 marks]** Pathology: Blast crisis. — *TNMGR Oct 2025 P-I*
8. **[5 marks]** Microbiology: Meningitis causing organisms age-wise. — *TNMGR Oct 2025 P-I*
9. **[5 marks]** Microbiology: Mycobacterium classification. — *TNMGR Oct 2025 P-I*
10. **[5 marks]** Microbiology: Herpes virus. — *TNMGR Oct 2025 P-I*
11. **[5 marks]** Biochemistry: Lactic acidosis. — *TNMGR Dec 2024 P-I*
12. **[5 marks]** Biochemistry: Methemoglobin formation and mechanism of action of Methylene blue. — *TNMGR Dec 2024 P-I*
13. **[5 marks]** Biochemistry: Ketoacidosis syndrome. — *TNMGR Dec 2024 P-I*
14. **[5 marks]** Pathology: Rotator cuff tears. — *TNMGR Dec 2024 P-I*
15. **[5 marks]** Pathology: Commotio cordis. — *TNMGR Dec 2024 P-I*
16. **[5 marks]** Pathology: Acute Respiratory distress syndrome. — *TNMGR Dec 2024 P-I*
17. **[5 marks]** Microbiology: Community Acquired Pneumonia. — *TNMGR Dec 2024 P-I*
18. **[5 marks]** Microbiology: Septic Arthritis. — *TNMGR Dec 2024 P-I*
19. **[5 marks]** Microbiology: Infections in HIV patients. — *TNMGR Dec 2024 P-I*
20. **[5 marks]** Biochemistry: Metabolism of Ethanol and its toxicity. — *TNMGR Jul 2023 P-I*
21. **[5 marks]** Biochemistry: Discuss the various causes for Normal anion gap metabolic acidosis. — *TNMGR Jul 2023 P-I*
22. **[5 marks]** Biochemistry: Causes, diagnosis and treatment of Methemoglobinemia. — *TNMGR Jul 2023 P-I*
23. **[5 marks]** Pathology: Stages of Wound healing. — *TNMGR Jul 2023 P-I*
24. **[5 marks]** Pathology: Anticoagulant Reversal Strategies in the Emergency Department. — *TNMGR Jul 2023 P-I*
25. **[5 marks]** Pathology: Pathophysiology of Acute Cholecystitis. — *TNMGR Jul 2023 P-I*
26. **[5 marks]** Microbiology: Note on Rabies vaccine and immunoglobulin. — *TNMGR Jul 2023 P-I*
27. **[5 marks]** Microbiology: Tetanus – Explain the pathogen and its mechanism of causing the disease. — *TNMGR Jul 2023 P-I*
28. **[5 marks]** Microbiology: Describe the etiology, presentation and treatment of Acute Pyelonephritis. — *TNMGR Jul 2023 P-I*

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# 21. Prehospital Care, Disaster Medicine and Ultrasound (67 questions)

## ★ Most-asked topics in this chapter

- Point-of-care ultrasound and imaging — ***asked in 27 papers***
- Disaster management, mass casualty and CBRN — ***asked in 22 papers***
- Prehospital care and emergency medical services — ***asked in 9 papers***

## 21.1 Prehospital care and emergency medical services *(9 papers)*

1. Describe the kinematics of Trauma in an unrestrained driver of a car with history of head on collusio n with a tree. If you are the first responder how will you extricate and transport the patient to the hospital. — *KUHS Nov 2025 P-III*
2. Discuss air medical transport — *KUHS Nov 2025 P-IV*
3. **a)** Enumerate any two femoral traction splints used in prehospital phase. Write indications and contraindications of these femoral traction splints used in prehospital phase. [7] **b)** Guidelines for cervical spine clearance in the field. [3] — *DNB Jun 2025 P-I*
4. **a)** Describe the methods to develop emergency care system in a state. [6] — *DNB May 2024 P-IV*
5. **a)** Field Triage Decision Scheme. [5] — *DNB Oct 2023 P-II*
6. **c)** Tactical casualty combat care – guidelines. [4] — *DNB Dec 2019 P-IV*
7. Spine immobilization in pre-hospital care — *KUHS Jun 2016 P-III*
8. **[7 marks]** You are preparing for an air medical transport of a critically ill trauma patient with chest injury for which an ICD was inserted and lower limb splint. What are the precautions to be taken pertaining to airway and breathing of this patient? Any other considerations for this patient before transfer. — *TNMGR Dec 2024 P-IV*
9. **[7 marks]** 108 Ambulance Service in India. — *TNMGR Jul 2023 P-IV*

## 21.2 Disaster management, mass casualty and CBRN *(22 papers)*

1. **Essay [20 marks]** What is multi-casualty incident. Discuss Incident Command System (ICS). Elaborate on the disaster response by your team to a bus accident with 40 passengers near your hospital both at the site of the accident and in the ED. — *KUHS Nov 2025 P-I*
2. **Long essay [15 marks]** Triaging – Triaging criteria, Disaster Triaging, Response and Management. — *TNMGR Oct 2025 P-IV*
3. **Long essay [15 marks]** Bioterrorism: Epidemiology, agents of concern, clinical features, diagnosis, and treatment. — *TNMGR Jul 2023 P-IV*
4. Blast injuries — ***KUHS May 2022 P-I · KUHS May 2017 P-III [2×]***
5. **a)** Incident command system of disaster. [5] **b)** Four color-coded triage categories. [5] — *DNB Jun 2025 P-I*
6. What is Hospital Emergency Incident Command System. (HEICS). Describe briefly how will you act if 30 victims from a b us accident are shifted to your hospital during your shift at 11.00am. — *KUHS Jan 2025 P-I*
7. **c)** Tactical combat casualty care. [4] — *DNB Oct 2024 P-IV*
8. **a)** Define disaster. [1] **b)** Describe the components of the Hospital Emergency Operations Plan in case of a disaster. [4] **c)** Describe ED disaster response including triage. [5] — *DNB Oct 2024 P-I*
9. **b)** Tactile casualty combat care guidelines. [5] — *DNB Oct 2023 P-IV*
10. **a)** Describe components of Level A, B and C personal protective equipment used in a chemical disaster. [5] **b)** Pathophysiology of blast injuries. [5] — *DNB Oct 2023 P-I*
11. **b)** Discuss control zones in case of a suspected chemical release. [5] — *DNB Dec 2022 P-IV*


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12. Discuss two triage systems for adults and one triage system for children in mass casualty incidents in the field settings. — *DNB Dec 2022 P-I*
13. **a)** Discuss incident command system for an external disaster. [6] — *DNB Dec 2022 P-I*
14. **a)** Discuss various triage protocols used during disaster for paediatric population. [5] — *DNB Jun 2022 P-IV*
15. START protocol in disaster — *KUHS May 2022 P-I*
16. **a)** Organization of hospital disaster plan. [5] **b)** Pathophysiology of blast injuries. [5] — *DNB Jun 2021 P-I*
17. Define disaster. Write about the factors that may hind er ED response to disasters. Describe about the components of the hospital emergency operations plan. Describe ED disaster response including triage. — *KUHS Jun 2020 P-I*
18. Describe the importance of decontamination area in emergency department and the management of chemical disasters. — *KUHS Jun 2020 P-I*
19. Mass casualty incidents — *KUHS Jun 2020 P-IV*
20. **a)** Pathophysiology of bomb blast injuries. [4] **b)** Enumerate factors affecting bomb blast injuries. [2] **c)** Field triage in bomb blast injuries. [2] **d)** ED triage in bomb blast injuries. [2] — *DNB Jun 2019 P-I*
21. **a)** Control zones of a chemical release event at a scene. [3] **b)** How do you suspect chemical terrorism? [2] **c)** Classify the chemical agents as per their actions. [2] **d)** Personal protective equipments [3] — *DNB Jun 2019 P-I*
22. **a)** Define disaster. [1] **b)** Write about factors that may hinder ED response to disaster. [2] **c)** Write about components of hospital emergency operations plan. [3] **d)** Describe ED disaster response including triage. [4] — *DNB Dec 2018 P-I*
23. **a)** What is HAZMAT? [1] **b)** How will you recognize an HAZMAT event? [3] **c)** What are the various control zones for decontamination in the field? ` [6] — *DNB Jun 2018 P-IV*
24. **a)** Define multiple casualty and mass casualty. [2] **b)** How would you develop a hospital disaster plan? [5] **c)** Triaging during mass casualty. [3] — *DNB Dec 2016 P-IV*
25. **[7 marks]** What is HAZMAT? Discuss on zones of decontamination in the field. — *TNMGR Dec 2024 P-IV*
26. **[7 marks]** Field Triage (START – Simple Triage and Rapid Treatment). — *TNMGR Jul 2023 P-IV*
27. **[7 marks]** Steps in disaster management. — *TNMGR Jul 2023 P-IV*

## 21.3 Point-of-care ultrasound and imaging *(27 papers)*

1. **a)** Discuss bedside ultrasonography use to identify acute heart failure in dyspneic patient in emergency room. [5] **b)** Discuss point of care ultrasonography for non-traumatic acute abdominal pain in emergency room. [5] — *DNB Jun 2025 P-IV*
2. **a)** Explain basic physics of point of care ultrasound. [2] **b)** Draw a diagram to illustrate BLUE protocol in a patient with acute dyspnea. [4] **c)** Describe the utility of M-mode in point of care ultrasound. [2] **d)** Enumerate four artifacts pertaining to lung ultrasound. [2] — *DNB Oct 2024 P-I*
3. **a)** Describe the sonographic signs of pneumoperitoneum. [3] — *DNB May 2024 P-II*
4. **b)** Discuss the role of transesophageal echo in CPR. [5] — *DNB May 2024 P-IV*
5. Discuss point of care ultrasound findings in emergency room in the evaluation of: **a)** Cardiovascular and respiratory system. [5] **b)** Abdominal and obstetrical indications. [5] — *DNB Oct 2023 P-IV*
6. Role of ultrasound in patient with shock. — *KUHS Jul 2023 P-IV*
7. **b)** Role of ultrasound in a patient with acute shortness of breath. [4] — *DNB Dec 2022 P-IV*
8. **a)** Discuss imaging modalities for foreign bodies in soft tissue. [4] — *DNB Dec 2022 P-I*
9. **a)** Discuss the role of airway ultrasound during rapid sequence intubation. [5] — *DNB Jun 2022 P-IV*
10. **b)** Discuss ultrasound guided triage during disaster. [5] — *DNB Jun 2022 P-IV*
11. **a)** Discuss the point of care ultrasound signs in chest trauma patients. [5] — *DNB Jun 2022 P-II*


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12. **a)** Role of POCUS in traumatic ocular injury. [5] — *DNB Dec 2021 P-II*
13. **a)** Explain basic physics of point of care ultrasound and its clinical application. [5] **b)** Describe the utility of M-mode in point of care ultrasound. [3] **c)** Enumerate four artifacts pertaining to lung ultrasound. [2] — *DNB Jun 2021 P-I*
14. **b)** POCUS in estimation of fluid volume in shock. [5] — *DNB Dec 2020 P-I*
15. Describe about bed side investigations in ED including e-FAST — *KUHS Jun 2020 P-I*
16. RUSH protocol — *KUHS Jun 2020 P-IV*
17. **a)** Describe pulse-echo principle. [2] **b)** Describe ALARA principle. [2] **c)** Discuss the role of lung ultrasound in diagnosis of critical clinical conditions. Enumerate the artifacts observed. [4] **d)** Describe utility of low frequency probes during resuscitation. [2] — *DNB Dec 2019 P-I*
18. A 35-year-old male bike rider presents to emergency with history of head-on collision with a motor vehicle. He is drowsy and sonorous, responding with 'Aaah-Uggh' on painful stimuli and extensor response in lower limbs. Pulse 120/min, BP 80/60 mmHg and saturation 70%. On examination, his mouth is full of blood and breath sounds are not heard over left lung. **c)** Role of point of care ultrasound in this case. [2] — *DNB Dec 2019 P-II*
19. **c)** Describe optic nerve sheath diameter and its clinical significance. [2] — *DNB Dec 2019 P-II*
20. **c)** Compare the role of X-ray abdomen and point of care ultrasound in acute abdomen. [3] — *DNB Dec 2019 P-II*
21. **a)** Describe RUSH-VTi protocol. Compare and contrast with original RUSH on basis of pearls and pitfalls. [5] — *DNB Dec 2019 P-IV*
22. **a)** Ultrasound guided CPR. [4] **b)** Ultrasound guided triage. [2] **c)** Pediatric emergency ultrasound protocols. [2] **d)** Water-bath technique of ultrasound. [2] — *DNB Dec 2019 P-IV*
23. **a)** Ocular ultrasound. [3] **b)** FALLS protocol. [5] **c)** Ultrasound finding in pneumonia. [2] — *DNB Jun 2019 P-IV*
24. Write about RUSH protocol in ICU: **a)** Indications, [2] **b)** Methods, [4] **c)** Techniques and [3] **d)** Pitfalls [1] — *DNB Dec 2018 P-IV*
25. **a)** What is BLUE protocol for ultrasound in ED? [2] **b)** Describe different profiles in lung USG. [4] **c)** Role of USG in diagnosis of lung parenchymal diseases. [4] — *DNB Jun 2018 P-IV*
26. Regarding ocular ultrasonography in the emergency department: **a)** Discuss the uses of this technology in ED [3] **b)** Define normal values of optic nerve sheath diameter in adults [3] **c)** List the pitfalls of this examination [2] **d)** What are the precautions and contraindications of this test? [2] — *DNB Dec 2017 P-IV*
27. E-FAST — *KUHS May 2017 P-III*
28. RUSH protocol and its use in assessing emergency patients — *KUHS Jun 2016 P-I*
29. FAST & EFAST — *KUHS Jun 2015 P-I*
30. **[7 marks]** Use of Ultrasound in undifferentiated shock. — *TNMGR Dec 2024 P-IV*
31. **[7 marks]** POCUS. — *TNMGR Jul 2023 P-IV*

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# 22. Procedures, Analgesia and Sedation (44 questions)

## ★ Most-asked topics in this chapter

- Analgesia, nerve blocks and procedural sedation — ***asked in 26 papers***
- Emergency procedures and vascular access — ***asked in 13 papers***

## 22.1 Emergency procedures and vascular access *(13 papers)*

1. **b)** Discuss indications, contraindications and technique of intraosseous vascular access. [5] — *DNB Jun 2025 P-IV*
2. **b)** Draw and label Central Venous Pressure Waveform and discuss its clinical application. [5] — *DNB Oct 2023 P-I*
3. **b)** Mention contraindications to lumbar puncture and write on normal cerebrospinal fluid values. [5] — *DNB Oct 2023 P-I*
4. Insertion and management of intercostal drainage (ICD) in a thoracic trauma patient reporting to ED. — *KUHS Jul 2023 P-III*
5. **a)** Describe the uses of foley's catheter balloon tamponade. [5] — *DNB Jun 2022 P-II*
6. **b)** Steps in canulation of right subclavian vein in the ER. [5] — *DNB Dec 2021 P-I*
7. Pe ricardiocentesis — *KUHS May 2021 P-III*
8. Supra pubic catheterisation — *KUHS Oct 2018 P-III*
9. **a)** Diagram depicting anatomy of subclavian vein relevant to its venous access [3] **b)** Indications of central venous catheterization in Emergency Department. [2] **c)** Complications of central venous catheterization [3] **d)** Complications of peripheral venous access [2] — *DNB Dec 2017 P-I*
10. Intraosseous infusion — *KUHS May 2017 P-I*
11. Applied anatomy of the internal jugular vein catheterization — *KUHS May 2017 P-I*
12. **a)** What are the indications for intraosseous access? [2] **b)** Different sites available for it and outline its procedure. [3] **c)** What are the complications? [3] **d)** What drugs can be given through intraosseous route? [2] — *DNB Dec 2016 P-IV*
13. Subclavian vein-anatomy. Indications, contraindications, techniques and complications of subclavian vein cannulation — *KUHS Jun 2016 P-I*
14. Supra pubic catherisation — *KUHS Jun 2016 P-III*
15. Needle thoracocentesis and ICD — *KUHS Jun 2015 P-III*

## 22.2 Analgesia, nerve blocks and procedural sedation *(26 papers)*

1. **a)** Discuss the nonconventional analgesics used in the emergency department. [5] — *DNB Dec 2025 P-I*
2. How will you assess and manage a patient with acute pain in ED. What are the barriers to provide optimal pain management in ED. — *KUHS Nov 2025 P-I*
3. **b)** Pain scale for infant and toddlers. [4] — *DNB Jun 2025 P-IV*
4. **a)** Procedural sedation and analgesia for fracture of upper end of humerus in the emergency room. [5] — *DNB Jun 2025 P-I*
5. Procedural sedation and analgesia — *KUHS Jan 2025 P-II*
6. Describe methods of pain relief in a patient with multiple rib fractures. Briefly describe the pain pathway in acute pain. — *KUHS Jun 2024 P-I*
7. Describe in detail the procedural sedation and methods of pain relief in ED. — *KUHS Jun 2024 P-I*
8. Discuss pathophysiology of pain and management of acute pain in ED — *KUHS Jun 2024 P-III*
9. **b)** Describe the classification, indications, contraindications and complications of local anaesthetics. [6] — *DNB May 2024 P-I*


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10. **a)** Discuss pharmacology of Bupivacaine and how will you treat a patient with systemic toxicity due to bupivacaine. [5] **b)** Discuss Ketamine based regimen for procedural sedation and analgesia. [5] *— DNB Oct 2023 P-I*

11. **a)** Physiology of pain perception. [5] **b)** Types of local nerve blocks used in ER. [5] *— DNB Apr 2023 P-I*

12. **a)** Discuss local anesthetic systemic toxicity. [3] *— DNB Dec 2022 P-IV*

13. A 25-year-old man presents with fracture of right hip joint with a pain score of 9/10. **a)** Discuss the concept of block on arrival. [4] **b)** Discuss pericapsular nerve group (PNEG) block versus fascia iliaca compartment block. [6] *— DNB Jun 2022 P-IV*

14. **b)** Discuss the management of acute rib fracture pain. [5] *— DNB Jun 2022 P-II*

15. **a)** Describe pathways and mechanism for transmission of acute onset pain. [5] **b)** Discuss pain scales among non-verbal age group. [5] *— DNB Jun 2022 P-I*

16. **b)** Plan for pain relief of a 75 year old female, known hypertensive with previous history of PTCA presently admitted with hip fracture. [5] *— DNB Dec 2021 P-II*

17. **a)** Pathways of transmission of pain. [3] **b)** Local anaesthetic drugs. [4] **c)** Hematoma block. [3] *— DNB Dec 2020 P-I*

18. A 78-year-old male comes to the ER after a slip and fall. She is in severe pain and has fracture of the femur neck. She has diabetes mellitus, hypertension and COPD. Pain is persistent even after intravenous analgesics that can be offered. You decide to do a fascia iliaca block for pain relief. Discuss: **a)** Anatomy of the fascia iliaca. [2] **b)** Indications, contraindications and complications. [3] **c)** Brief description of various approaches to the fascia iliaca block. [3] **d)** Drugs used with doses. [2] *— DNB Dec 2020 P-IV*

19. **c)** Nerve blocks in a trauma patient. [3] *— DNB Jun 2020 P-IV*

20. Describe methods of pain relief in trauma victims in ED. Describe about splinting in ED. *— KUHS Jun 2020 P-I*

21. **b)** Antipyretics and analgesics used in ED. [2] *— DNB Dec 2019 P-I*

22. **d)** Nerve blocks of the face. [3] *— DNB Dec 2019 P-II*

23. **d)** Describe clinical features and management of local anaesthetic induced systemic toxicity. [3] *— DNB Dec 2019 P-II*

24. **a)** Discuss various pain assessment scores in children. [4] **b)** Procedural sedation and analgesia for reduction of hip dislocation in a known hypertensive adult on regular antihypertensives. [4] **c)** Femoral nerve block and intercostal nerve block. [2] *— DNB Dec 2019 P-III*

25. Procedural sedation and analgesia in ED *— KUHS Apr 2019 P-I*

26. Describe pain pathway and method of evaluation of pain at ED. *— KUHS Apr 2019 P-I*

27. **a)** Pathophysiology of pain. [4] **b)** Discuss any three pain scales used in ED for adults. [3] **c)** Complex regional pain syndrome. [3] *— DNB Jun 2018 P-I*

28. Evaluation of pain in the emergency department *— KUHS Apr 2018 P-I*

29. **a)** Enumerate sedation agents for procedural sedation [3] **b)** Discuss any three sedation agents [3] **c)** Monitoring a patient during procedural sedation [4] *— DNB Dec 2017 P-I*



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# 23. Research, Ethics, Medicolegal and ED Administration (58 questions)

## ★ Most-asked topics in this chapter

- ED administration, triage, quality, education and recent advances — ***asked in 20 papers***
- Research methodology and biostatistics — ***asked in 15 papers***
- Ethics, medicolegal issues and communication — ***asked in 10 papers***

## 23.1 Research methodology and biostatistics *(15 papers)*

1. **a)** Define sensitivity, specificity, positive predictive value (PPV), and negative predictive value (NPV). Illustrate with a 2×2 contingency table. [5] **b)** A new rapid test for pediatric meningitis has a sensitivity of 90% and specificity of 85%. In a population with 10% disease prevalence, calculate the PPV and NPV. Interpret the results in the context of emergency decision-making. [5] — *DNB Dec 2025 P-IV*
2. **a)** Forest Plot. [3] **b)** Randomisation techniques. [4] **c)** Positive and negative predictive value of a test. [3] — *DNB Oct 2024 P-IV*
3. **a)** How will you evaluate diagnostic accuracy of a test? [5] **b)** Describe different randomization techniques. [5] — *DNB May 2024 P-IV*
4. Compare the following: **a)** Parametric and Nonparametric tests. [5] **b)** Case control and cohort studies. [5] — *DNB Apr 2023 P-IV*
5. **a)** "PICO" concept for doing Systematic review. [5] — *DNB Apr 2023 P-IV*
6. **a)** Discuss the results of prescription of analgesia in emergency medicine (POEM) study. [5] **b)** Class of recommendations and level of evidence table. [5] — *DNB Apr 2023 P-IV*
7. **a)** Discuss phases of clinical trials of a new drug. [5] — *DNB Dec 2022 P-IV*
8. **a)** Positive predictive value. [2] **b)** Negative predictive value. [2] **c)** Confidence interval. [2] **d)** Odds ratio. [2] **e)** Likelihood ratio. [2] — *DNB Dec 2022 P-IV*
9. **a)** Describe key salient features of Forest plot. [5] **b)** Describe critical appraisal points of a research article. [5] — *DNB Jun 2022 P-IV*
10. **a)** Discuss the opportunities and challenges of emergency care research. [5] — *DNB Jun 2022 P-IV*
11. Discuss the method of conducting and reporting of studies: **a)** Randomized control trial. [5] **b)** Case reports. [5] — *DNB Jun 2022 P-IV*
12. **a)** Pyramid of evidence based medicine. [5] **b)** Significance of p value. [5] — *DNB Dec 2021 P-IV*
13. **a)** Describe CONSORT guidelines. [3] **b)** Discuss parametric versus non-parametric statistical tests. [3] **c)** Discuss Type II error with an example. [2] **d)** Discuss likelihood ratio with an example. [2] — *DNB Jun 2021 P-IV*
14. **a)** Levels of evidence in bio-medical research. **b)** Linear Correlation Coefficient. — *DNB Dec 2020 P-IV*
15. **a)** Sample size calculation for a research study in ED. [4] **b)** Write briefly about Cox Regression model. [3] **c)** Forest plot. [3] — *DNB Jun 2020 P-IV*
16. **a)** ROC curve – significance for statistical analysis. [2] **b)** CONSORT guidelines. [3] **d)** Odds ratio and relative risk. [2] — *DNB Dec 2019 P-IV*
17. **a)** Confidence interval. [3] **b)** Positive and negative predictive values. [4] **c)** Triple-blinded, randomized studies. [3] — *DNB Jun 2019 P-IV*
18. **a)** Discuss about Odd's ratio giving an example. [5] **b)** Discuss about likelihood ratio giving an example. [5] — *DNB Jun 2018 P-IV*
19. **a)** Bayes Theorem. [3] **b)** What are the measures of diagnostic test accuracy? [3] **c)** ROC curve (Receiver Operating Characteristic curve). [4] — *DNB Jun 2017 P-I*


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20. **a)** Define randomized clinical trial. **b)** Compare prospective and retrospective studies. **c)** Which common statistical methods are employed for categorical variables? Discuss any one of them. — *DNB Dec 2016 P-IV*

## 23.2 Ethics, medicolegal issues and communication *(10 papers)*

1. How will you identify, screen and manage a victim of intimate partner violence in ED. — *KUHS Nov 2025 P-I*
2. Discuss the stabilization of: **a)** Potential organ donor. [5] — *DNB Apr 2023 P-IV*
3. **a)** Discuss the ICMR guidelines on 'Do Not Attempt Resuscitation'? [5] **b)** Discuss the role of palliative care in the emergency department. [5] — *DNB Dec 2022 P-IV*
4. **b)** Discuss various grief counselling methods. [5] — *DNB Jun 2022 P-IV*
5. **a)** Examination of an elderly female victim of physical assault in ED. [5] **b)** Steps in preparing an Injury Report. [5] — *DNB Dec 2021 P-II*
6. **a)** Discuss forensic evaluation of bullet wounds [3] **b)** How will you assess age of a lacerated wound over thigh? [3] **c)** POCSO Act. [4] — *DNB Jun 2021 P-IV*
7. You are the ED consultan t on floor. You are called in that one of the relatives is having a heated argument with one of the ER resident doctor. Discuss: **a)** Factors leading to difficult pa tient-physician interaction. [5] **b)** Emergency department preparedness and prevention of violence. [5] — *DNB Dec 2020 P-IV*
8. **a)** 'Do not attempt resuscitation' guidelines by ICMR. [7] **b)** Euthanasia. [3] — *DNB Jun 2020 P-IV*
9. **a)** Discharge against medical advice from ED. [4] **b)** Medico-legal implications of a prisoner absconding from ED. [3] **c)** How to declare a patient "brought dead"? [3] — *DNB Jun 2020 P-IV*
10. **a)** Greif Counselling. [5] — *DNB Jun 2020 P-IV*
11. **b)** Good Samaritan law. [2] — *DNB Dec 2019 P-IV*
12. **b)** Communication skill in emergency department. [3] **c)** Common errors in emergency and patient safety issues – medicolegal aspect. [3] — *DNB Dec 2019 P-IV*
13. Organ donation counselling — *KUHS Apr 2019 P-IV*

## 23.3 ED administration, triage, quality, education and recent advances *(20 papers)*

1. **a)** Role of Telemedicine in emergency care. [5] **b)** Simulation as a teaching tool in emergency. [5] — ***DNB Oct 2023 P-IV · DNB Dec 2019 P-IV [2×]***
2. **a)** Discuss the role of artificial intelligence (AI) in emergency department triage and decision support systems. [5] — *DNB Dec 2025 P-IV*
3. Name the categories of triage in ED in a 50 year hypertensive. How does this differ from patients triaged during a mass casualty event. Discuss briefly spee d consideration while triaging p eadiatric and psychiatric patients. — *KUHS Nov 2025 P-I*
4. Define Obesity. What are the adverse consequences with which obese patient can present to ED. — *KUHS Jan 2025 P-I*
5. **a)** WATERFALL trial in acute pancreatitis. [4] **b)** E-MOTIVE trial in post-partum hemorrhage. [6] — *DNB Oct 2024 P-IV*
6. **a)** Describe a quality improvement research methodology to decrease the door to needle time in a patient with acute myocardial infarction. [5] — *DNB May 2024 P-IV*
7. **b)** Discuss the utility of artificial intelligence in emergency medicine. [4] — *DNB May 2024 P-IV*
8. **b)** Discuss the key performance indicators in terms of structure, process and outcome of time-sensitive emergency conditions. [4] — *DNB May 2024 P-IV*
9. Discuss the information and applicability of: **a)** Select II Trial. [5] **b)** Clovers Trial. [5] — *DNB Apr 2023 P-IV*
10. **a)** DIscuss recent trials carried out for determining targets of oxygen saturation and blood pressure after achieving return of spontaneous circulation. [6] — *DNB Dec 2022 P-IV*


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11. **a)** Discuss important critical appraisal findings of TTM-2 trial. [5] **b)** Discuss the critical appraisal points of COACT trial. [5] — *DNB Jun 2022 P-IV*

12. Role of portable point of care and artificial intelligence in Emergency Medicine. — *KUHS May 2022 P-IV*

13. **a)** Hand-over and take-over of patients at the time of change of shift in the Emergency department. [3] **b)** How to prepare a duty roster for residents of Emergency department? (2) **c)** Common medical errors in emergency department. [2] **d)** Communication skills during resuscitation. [3] — *DNB Jun 2021 P-IV*

14. **a)** Simulation training for emergency physicians in resource-constraint settings [4] **b)** Discuss role of telemedicine in emergency care. [4] **c)** Describe the concept of flipped classroom and its relevance to emergency medicine. [2] — *DNB Jun 2021 P-IV*

15. Describe briefly the study designs, strengths, weaknesses and conclusions of the following trials: **a)** CRASH-III Trial. [3] **b)** RECOVERY Trial. [3] **c)** DEFUSE-3 Trial. [2] **d)** WOMAN Trial. [2] — *DNB Jun 2021 P-IV*

16. **a)** Causes of ED crowding. [4] **b)** Meas ures to deal with ED crowding. [6] — *DNB Dec 2020 P-IV*

17. **a)** FISH bone analysis for quality improvement in ED. **b)** DAWN and DIFFUSE-3 Trials. — *DNB Jun 2020 P-IV*

18. **c)** Microteaching techniques. [3] — *DNB Dec 2019 P-IV*

19. **a)** Quality improvement research in emergency medicine. [4] — *DNB Dec 2019 P-IV*

20. Point of care investigations (POC) in ED. — *KUHS Apr 2019 P-IV*

21. **b)** How will you set up "point of care" laboratory in your ED and write rationale behind that? [6] — *DNB Dec 2018 P-I*

22. Paediatric specific triage system — *KUHS Apr 2018 P-II*

23. Principles in Triage. — *KUHS May 2017 P-I*

24. **[7 marks]** Electronic alter systems in ED. — *TNMGR Oct 2025 P-IV*

25. **[7 marks]** CRASH-3 trial. — *TNMGR Jul 2023 P-IV*

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# Appendix — Papers covered

*DNB papers: National Board of Examinations in Medical Sciences (natboard.edu.in, previous question papers). KUHS papers: Kerala University of Health Sciences website (MD Emergency Medicine, Q.P. codes 101119–104119). Dr. MGR papers: The Tamil Nadu Dr. M.G.R. Medical University e-question bank (M.D. Emergency Medicine).*

| Source | Sitting | Papers | Question pattern (per paper) |
|---|---|---|---|
| **DNB (NBEMS)** | December 2016 | I, II, III, IV | 10 questions × 10 marks = 100 |
| **DNB (NBEMS)** | June 2017 | I, II, III, IV | 10 questions × 10 marks = 100 |
| **DNB (NBEMS)** | December 2017 | I, II, III, IV | 10 questions × 10 marks = 100 |
| **DNB (NBEMS)** | June 2018 | I, II, III, IV | 10 questions × 10 marks = 100 |
| **DNB (NBEMS)** | December 2018 | I, II, III, IV | 10 questions × 10 marks = 100 |
| **DNB (NBEMS)** | June 2019 | I, II, III, IV | 10 questions × 10 marks = 100 |
| **DNB (NBEMS)** | December 2019 | I, II, III, IV | 10 questions × 10 marks = 100 |
| **DNB (NBEMS)** | June 2020 | I, II, III, IV | 10 questions × 10 marks = 100 |
| **DNB (NBEMS)** | December 2020 | I, II, III, IV | 10 questions × 10 marks = 100 |
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| **DNB (NBEMS)** | December 2021 | I, II, III, IV | 10 questions × 10 marks = 100 |
| **DNB (NBEMS)** | June 2022 | I, II, III, IV | 10 questions × 10 marks = 100 |
| **DNB (NBEMS)** | December 2022 | I, II, III, IV | 10 questions × 10 marks = 100 |
| **DNB (NBEMS)** | April 2023 | I, II, III, IV | 10 questions × 10 marks = 100 |
| **DNB (NBEMS)** | October 2023 | I, II, III, IV | 10 questions × 10 marks = 100 |
| **DNB (NBEMS)** | May 2024 | I, II, III, IV | 10 questions × 10 marks = 100 |
| **DNB (NBEMS)** | October 2024 | I, II, III, IV | 10 questions × 10 marks = 100 |
| **DNB (NBEMS)** | June 2025 | I, II, III, IV | 10 questions × 10 marks = 100 |
| **DNB (NBEMS)** | December 2025 | I, II, III, IV | 10 questions × 10 marks = 100 |
| **KUHS – MD** | June 2015 | I, II, III, IV | 1 essay (20) + 8 short essays (10) = 100 |
| **KUHS – MD** | June 2016 | I, II, III, IV | 1 essay (20) + 8 short essays (10) = 100 |
| **KUHS – MD** | May 2017 | I, II, III, IV | 1 essay (20) + 8 short essays (10) = 100 |
| **KUHS – MD** | April 2018 | I, II, III, IV | 1 essay (20) + 8 short essays (10) = 100 |
| **KUHS – MD** | October 2018 | I, II, III, IV | 1 essay (20) + 8 short essays (10) = 100 |
| **KUHS – MD** | April 2019 | I, II, III, IV | 1 essay (20) + 8 short essays (10) = 100 |
| **KUHS – MD** | June 2020 | I, II, III, IV | 1 essay (20) + 8 short essays (10) = 100 |
| **KUHS – MD** | May 2021 | I, II, III, IV | 1 essay (20) + 8 short essays (10) = 100 |
| **KUHS – MD** | May 2022 | I, II, III, IV | 1 essay (20) + 8 short essays (10) = 100 |
| **KUHS – MD** | July 2023 | I, II, III, IV | 1 essay (20) + 8 short essays (10) = 100 |
| **KUHS – MD** | June 2024 | I, II, III, IV | 1 essay (20) + 8 short essays (10) = 100 |
| **KUHS – MD** | January 2025 | I, II, III, IV | 1 essay (20) + 8 short essays (10) = 100 |
| **KUHS – MD** | November 2025 | I, II, III, IV | 1 essay (20) + 8 short essays (10) = 100 |
| **Dr. MGR Univ. – MD** | July 2023 | I, II, III, IV | P-I: 20 short notes (5); P-II–IV: 2 essays (15) + 10 notes (7) = 100 |
| **Dr. MGR Univ. – MD** | December 2024 | I, II, III, IV | P-I: 20 short notes (5); P-II–IV: 2 essays (15) + 10 notes (7) = 100 |
| **Dr. MGR Univ. – MD** | October 2025 | I, II, III, IV | P-I: 20 short notes (5); P-II–IV: 2 essays (15) + 10 notes (7) = 100 |

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# Index of major topics

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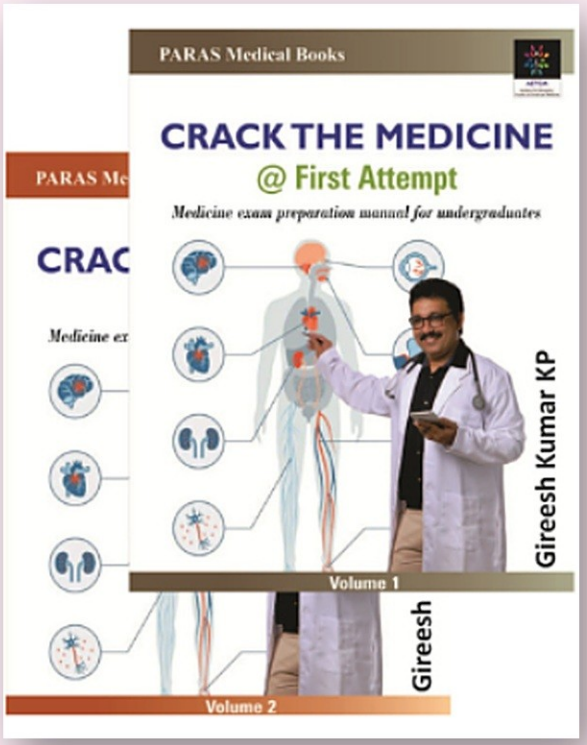
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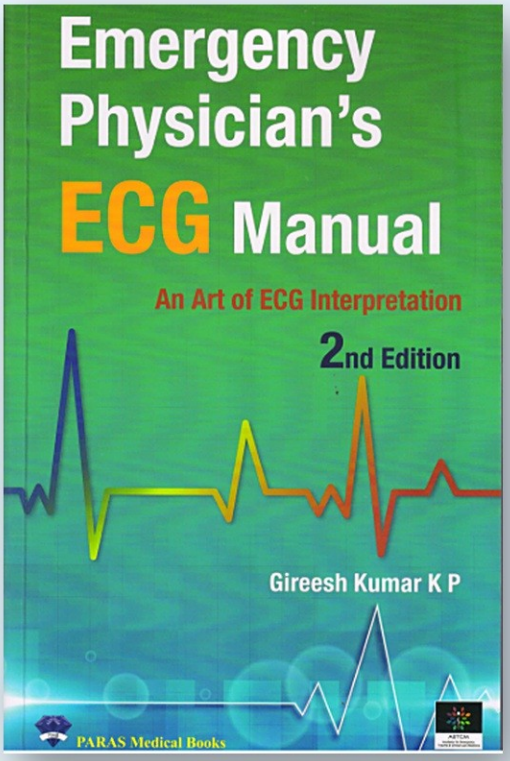
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