

INI CET Medicine

Sample Paper – 3

Duration: 14 Minutes

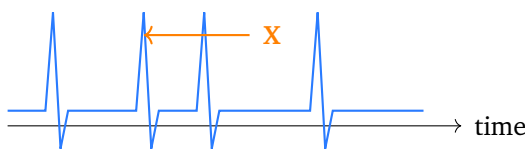
Maximum Marks: 15

Instructions

- This paper contains **15** Multiple Choice Questions (Single Best Response), modelled on the General Medicine content of **INI CET** (Institutes of National Importance Combined Entrance Test) conducted by AIIMS New Delhi.
- The **15-question** length matches the number of Internal Medicine items you actually meet in the real 200-question paper.
- Each correct answer carries **+1 mark**. There is **negative marking of one-third (0.33) mark** for every incorrect answer; unattempted questions carry no penalty.
- Every question has **exactly one best answer**. Choose the single most appropriate option for the clinical scenario or investigation shown.
- Attempt this practice paper in one timed sitting of about **14 minutes**, the pace the real computer-based test demands.

Cardiology

Q1. The ECG rhythm strip below shows no discernible P waves and an irregularly irregular ventricular response (the irregular R-R intervals are marked X). This rhythm is:



- (A) Atrial fibrillation
- (B) Sinus tachycardia
- (C) First-degree heart block

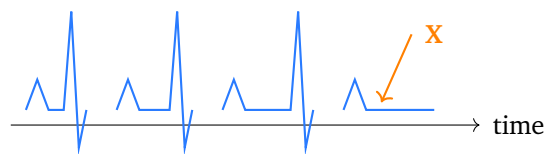


(D) Atrial flutter with fixed 2:1 block

Q2. A 62-year-old man with a previous anterior myocardial infarction develops a regular broad-complex tachycardia at 170/min (QRS 150 ms) with atrioventricular dissociation. The most likely diagnosis is:

- (A) Supraventricular tachycardia with aberrant conduction
- (B) Atrial flutter with 2:1 block
- (C) Ventricular tachycardia
- (D) Sinus tachycardia

Q3. In the rhythm strip below the PR interval lengthens progressively from beat to beat until a QRS complex is dropped (the dropped beat is marked X). This pattern is:



- (A) Mobitz type II second-degree block
- (B) Mobitz type I (Wenckebach) second-degree block
- (C) Third-degree (complete) heart block
- (D) First-degree heart block

Respiratory Medicine

Q4. A 70-year-old man with community-acquired pneumonia is confused, with blood urea 8 mmol/L, respiratory rate 32/min and blood pressure 88/56 mmHg. What is his CURB-65 score?

- (A) 2
- (B) 3
- (C) 5
- (D) 4



- Q5.** The single most common bacterial cause of community-acquired pneumonia, and the target of first-line empirical amoxicillin, is:
- (A) *Streptococcus pneumoniae*
 - (B) *Mycoplasma pneumoniae*
 - (C) *Klebsiella pneumoniae*
 - (D) *Legionella pneumophila*

Gastroenterology and Hepatology

- Q6.** Which feature favours ulcerative colitis rather than Crohn's disease?
- (A) Continuous mucosal inflammation extending proximally from the rectum
 - (B) Transmural inflammation with intervening skip lesions
 - (C) Non-caseating epithelioid granulomas
 - (D) Cobblestone appearance of the mucosa
- Q7.** Which complication is characteristically associated with Crohn's disease rather than ulcerative colitis?
- (A) Toxic megacolon
 - (B) Pseudopolyp formation
 - (C) Confinement of disease to the mucosa and submucosa
 - (D) Enterocutaneous fistulae and fibrotic strictures

Endocrinology and Nephrology

- Q8.** A patient with severe vomiting and dehydration develops oliguria. Urine sodium is less than 20 mmol/L and the blood urea to creatinine ratio is raised, with bland urinary sediment. This picture indicates:
- (A) Prerenal acute kidney injury
 - (B) Intrinsic renal injury (acute tubular necrosis)
 - (C) Postrenal (obstructive) acute kidney injury



(D) Established chronic kidney disease

Q9. By the KDIGO criteria, acute kidney injury may be diagnosed when the serum creatinine rises by at least:

- (A) 0.1 mg/dL within 48 hours
- (B) A doubling of baseline over 3 months
- (C) 1.0 mg/dL within 7 days only
- (D) 0.3 mg/dL within 48 hours

Q10. The commonest cause of intrinsic acute kidney injury in hospitalised patients is:

- (A) Bilateral renal artery stenosis
- (B) Bladder outlet obstruction
- (C) Rapidly progressive glomerulonephritis
- (D) Acute tubular necrosis

Neurology

Q11. A febrile patient with neck stiffness has a lumbar puncture. The CSF profile marked X in the table below (turbid fluid, very high neutrophils, high protein, very low glucose) is most consistent with:

CSF finding	Cells	Protein	Glucose
Sample X	neutrophils ↑↑	high	very low
Viral	lymphocytes ↑	normal/high	normal
Tubercular	lymphocytes	high	low

- (A) Viral (aseptic) meningitis
- (B) Acute bacterial (pyogenic) meningitis
- (C) Tuberculous meningitis
- (D) Normal cerebrospinal fluid

Q12. The most common cause of sporadic viral encephalitis in adults, typically affecting the temporal lobes and treated with intravenous aciclovir, is:



- (A) Enterovirus
- (B) Herpes simplex virus type 1
- (C) Cytomegalovirus
- (D) Japanese encephalitis virus

Infectious Diseases, Hematology and Rheumatology

- Q13.** A 4-year-old child presents with fever, bruising and lymphadenopathy. The bone marrow shows more than 20% lymphoblasts. The most likely diagnosis is:
- (A) Chronic lymphocytic leukaemia
 - (B) Chronic myeloid leukaemia
 - (C) Acute lymphoblastic leukaemia
 - (D) Hodgkin lymphoma
- Q14.** A 68-year-old man is found to have marked lymphocytosis with mature small lymphocytes and numerous smudge cells on the peripheral smear. The most likely diagnosis is:
- (A) Acute myeloid leukaemia
 - (B) Acute lymphoblastic leukaemia
 - (C) Chronic lymphocytic leukaemia
 - (D) Hairy cell leukaemia
- Q15.** The malignant cell whose presence is diagnostic of Hodgkin lymphoma, a large binucleate “owl-eye” cell, is the:
- (A) Burkitt (starry-sky) cell
 - (B) Reed-Sternberg cell
 - (C) Sezary cell
 - (D) Auer-rod-containing myeloblast



Detailed Solutions

Q1.

Solution

Concept – reading an irregular rhythm: The atrial activity and the regularity of the ventricular response name the arrhythmia.

Step 1 – read the strip: There are no organised P waves, and the R-R intervals are unequal from beat to beat (marked X).

Step 2 – name the rhythm: Absent P waves with an **irregularly irregular** ventricular response define **atrial fibrillation**.

Why the other options are wrong:

- B, sinus tachycardia: regular, with a normal P wave before every QRS.
- C, first-degree block: regular rhythm with a long but constant PR interval.
- D, atrial flutter with fixed block: regular ventricular rate with saw-tooth flutter waves.

Final Answer: Atrial fibrillation ⇒ **A**

Answer: (A) [Go Back to Q1](#)

Q2.

Solution

Concept – broad-complex tachycardia: A wide QRS in an older patient with prior infarction is ventricular until proven otherwise.

Step 1 – weigh the clues: There is a prior myocardial infarction, a wide QRS (150 ms) and atrioventricular dissociation.

Step 2 – name it: AV dissociation with a broad regular tachycardia points to **ventricular tachycardia**.

Why the other options are wrong:

- A, SVT with aberrancy: possible but far less likely given AV dissociation and old infarct.
- B, atrial flutter: usually narrow QRS unless aberrant, no AV dissociation.
- D, sinus tachycardia: narrow QRS with a P wave before each complex.

Final Answer: Ventricular tachycardia ⇒ **C**

Answer: (C) [Go Back to Q2](#)



Q3.

Solution

Concept – second-degree AV block subtypes: The behaviour of the PR interval before the dropped beat separates the two Mobitz types.

Step 1 – read the strip: The PR interval lengthens progressively across successive beats, then a QRS is dropped (marked X).

Step 2 – name it: Progressive PR prolongation before a dropped beat is **Mobitz type I (Wenckebach)**.

Why the other options are wrong:

- A, Mobitz type II: constant PR interval with sudden dropped beats.
- C, complete heart block: total AV dissociation with independent P waves and QRS complexes.
- D, first-degree block: a long but fixed PR with no dropped beats.

Final Answer: Mobitz type I (Wenckebach) $\Rightarrow$ **B**

Answer: (B) [Go Back to Q3](#)

Q4.

Solution

Concept – CURB-65 score: Each of five parameters scores one point to grade pneumonia severity.

Step 1 – score each component:

- Confusion present: 1
- Urea > 7 mmol/L (here 8): 1
- Respiratory rate ≥ 30 /min (here 32): 1
- Blood pressure systolic < 90 mmHg (here 88): 1
- Age ≥ 65 years (here 70): 1

Step 2 – add them: $1 + 1 + 1 + 1 + 1 = 5$, the maximum score, indicating high mortality risk and need for ICU-level care.

Why the other options are wrong:

- A, B and D (2, 3, 4): each undercounts one or more positive criteria; all five are met here.

Final Answer: CURB-65 score of 5 $\Rightarrow$ **C**



Answer: (C) [Go Back to Q4](#)

Q5.

Solution

Concept – causative organisms of CAP: One organism dominates the community-acquired pneumonia spectrum.

Step 1 – name the commonest: *Streptococcus pneumoniae* (pneumococcus) is the single most common cause.

Step 2 – treatment link: It is covered by first-line empirical amoxicillin in low-severity CAP.

Why the other options are wrong:

- B, *Mycoplasma*: an atypical organism, commoner in younger patients, needs a macrolide.
- C, *Klebsiella*: classically in alcoholics with cavitating upper-lobe pneumonia.
- D, *Legionella*: atypical pneumonia linked to water sources, not the commonest cause.

Final Answer: *Streptococcus pneumoniae* ⇒ **A**

Answer: (A) [Go Back to Q5](#)

Q6.

Solution

Concept – ulcerative colitis vs Crohn's disease: The distribution and depth of inflammation separate the two.

Step 1 – identify the UC feature: Continuous mucosal inflammation starting in the rectum and extending proximally is typical of ulcerative colitis.

Step 2 – contrast: UC is limited to the mucosa and submucosa of the colon.

Why the other options are wrong:

- B, transmural inflammation with skip lesions: a Crohn's feature.
- C, non-caseating granulomas: characteristic of Crohn's disease.
- D, cobblestone mucosa: a Crohn's finding from deep fissuring ulcers.

Final Answer: Continuous rectal-onset mucosal inflammation ⇒ **A**

Answer: (A) [Go Back to Q6](#)



Q7.

Solution

Concept – complications of IBD: Transmural disease predisposes to specific structural complications.

Step 1 – name the Crohn's complication: **Fistulae and fibrotic strictures** arise from the transmural inflammation of Crohn's disease.

Step 2 – mechanism: Full-thickness ulceration tracks between loops of bowel or to the skin, and healing fibrosis narrows the lumen.

Why the other options are wrong:

- A, toxic megacolon: more classically a complication of ulcerative colitis.
- B, pseudopolyps: regenerating mucosal islands typical of ulcerative colitis.
- C, disease confined to mucosa and submucosa: describes ulcerative colitis, not Crohn's.

Final Answer: Fistulae and strictures $\Rightarrow$ D

Answer: (D) [Go Back to Q7](#)

Q8.

Solution

Concept – classifying acute kidney injury: Urine chemistry separates prerenal from intrinsic causes.

Step 1 – read the numbers: Volume loss, urine sodium < 20 mmol/L, a raised urea:creatinine ratio and bland sediment indicate avid sodium retention by intact tubules.

Step 2 – name the type: This is **prerenal AKI** from renal hypoperfusion, reversible with fluid resuscitation.

Why the other options are wrong:

- B, acute tubular necrosis: urine sodium is high (> 40) with muddy-brown casts.
- C, postrenal: needs obstruction, often with hydronephrosis on imaging.
- D, chronic kidney disease: implies long-standing damage, small kidneys, not acute dehydration.

Final Answer: Prerenal AKI $\Rightarrow$ A



Answer: (A) [Go Back to Q8](#)

Q9.

Solution

Concept – KDIGO definition of AKI: AKI has defined creatinine and urine-output thresholds.

Step 1 – recall the creatinine threshold: AKI is defined by a rise in serum creatinine of **0.3 mg/dL or more within 48 hours**.

Step 2 – the alternatives: It may also be diagnosed by a 1.5-fold rise from base-line within 7 days, or urine output < 0.5 mL/kg/h for 6 hours.

Why the other options are wrong:

- A, 0.1 mg/dL: below the defined threshold.
- B, doubling over 3 months: too slow, this suggests chronic disease.
- C, 1.0 mg/dL in 7 days only: not the KDIGO cut-off; the 7-day criterion uses a 1.5-fold rise.

Final Answer: 0.3 mg/dL within 48 hours $\Rightarrow$ D

Answer: (D) [Go Back to Q9](#)

Q10.

Solution

Concept – causes of intrinsic AKI: One tubular process dominates hospital-acquired intrinsic AKI.

Step 1 – name the commonest: **Acute tubular necrosis** (from ischaemia or nephrotoxins) is the commonest intrinsic cause.

Step 2 – clinical clue: Muddy-brown granular casts and a high urine sodium support the diagnosis.

Why the other options are wrong:

- A, renal artery stenosis: a prerenal (vascular) mechanism, not intrinsic tubular.
- B, bladder outlet obstruction: a postrenal cause.
- C, rapidly progressive glomerulonephritis: an intrinsic cause but far less common than ATN.



Final Answer: Acute tubular necrosis $\Rightarrow$ D

Answer: (D) [Go Back to Q10](#)

Q11.

Solution

Concept – interpreting CSF in meningitis: Cell type, protein and glucose together point to the cause.

Step 1 – read sample X: Turbid fluid with a neutrophil predominance, high protein and very low glucose is shown.

Step 2 – name the diagnosis: This profile is **acute bacterial (pyogenic) meningitis**; empirical therapy is a third-generation cephalosporin.

Why the other options are wrong:

- A, viral: lymphocytic, normal glucose, only mildly raised protein.
- C, tuberculous: lymphocytic with low glucose and very high protein, not a neutrophil surge.
- D, normal CSF: clear fluid, few lymphocytes, normal protein and glucose.

Final Answer: Acute bacterial meningitis $\Rightarrow$ B

Answer: (B) [Go Back to Q11](#)

Q12.

Solution

Concept – sporadic viral encephalitis: One virus dominates adult sporadic cases and has specific therapy.

Step 1 – name the virus: **Herpes simplex virus type 1** is the commonest cause, with a temporal-lobe predilection on MRI.

Step 2 – management: Prompt intravenous aciclovir reduces mortality and must be started on clinical suspicion.

Why the other options are wrong:

- A, enterovirus: a common cause of aseptic meningitis, not classic sporadic encephalitis.
- C, cytomegalovirus: encephalitis mainly in the immunocompromised.
- D, Japanese encephalitis: epidemic and vector-borne, not sporadic; no aci-



clovir response.

Final Answer: Herpes simplex virus type 1 $\Rightarrow$ **B**

Answer: (B) [Go Back to Q12](#)

Q13.

Solution

Concept – acute leukaemia in childhood: Age and the blast lineage point to the diagnosis.

Step 1 – read the clues: A young child with marrow failure (fever, bruising) and $> 20\%$ **lymphoblasts** in the marrow.

Step 2 – name it: This is **acute lymphoblastic leukaemia**, the commonest childhood malignancy.

Why the other options are wrong:

- A, CLL: a disease of the elderly with mature lymphocytes.
- B, CML: adults, with a hypercellular marrow and the Philadelphia chromosome, not lymphoblasts.
- D, Hodgkin lymphoma: nodal disease with Reed-Sternberg cells, not marrow blasts.

Final Answer: Acute lymphoblastic leukaemia $\Rightarrow$ **C**

Answer: (C) [Go Back to Q13](#)

Q14.

Solution

Concept – chronic lymphoproliferative disorder: The age, cell maturity and smear artefact are diagnostic.

Step 1 – read the clues: An elderly man with marked lymphocytosis of mature small lymphocytes and **smudge cells**.

Step 2 – name it: This is **chronic lymphocytic leukaemia**, the commonest leukaemia of the elderly in the West.

Why the other options are wrong:

- A, AML: immature myeloblasts with Auer rods, an acute presentation.
- B, ALL: lymphoblasts in children, not mature lymphocytes in the elderly.



- D, hairy cell leukaemia: rarer, with cytoplasmic projections and pancytopenia, no smudge cells.

Final Answer: Chronic lymphocytic leukaemia ⇒

Answer: (C) [Go Back to Q14](#)

Q15.

Solution

Concept – diagnostic cell of Hodgkin lymphoma: One cell type defines the disease on biopsy.

Step 1 – name the cell: The **Reed-Sternberg cell**, a large binucleate “owl-eye” cell, is diagnostic of Hodgkin lymphoma.

Step 2 – context: It is CD15 and CD30 positive and sits in a reactive inflammatory background.

Why the other options are wrong:

- A, Burkitt cell: the starry-sky pattern of Burkitt lymphoma, a high-grade B-cell tumour.
- C, Sezary cell: circulating cerebriform T cells of cutaneous T-cell lymphoma.
- D, Auer-rod myeloblast: a feature of acute myeloid leukaemia.

Final Answer: Reed-Sternberg cell ⇒

Answer: (B) [Go Back to Q15](#)



Answer Key

Q	Ans	Q	Ans	Q	Ans	Q	Ans	Q	Ans
1	A	2	C	3	B	4	C	5	A
6	A	7	D	8	A	9	D	10	D
11	B	12	B	13	C	14	C	15	B

