

INI CET Medicine

Sample Paper – 4

Duration: 14 Minutes

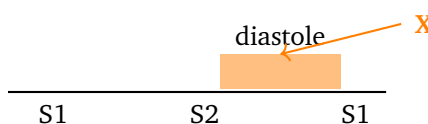
Maximum Marks: 15

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 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.
- Attempt this practice paper in one timed sitting of about **14 minutes**, the pace the real computer-based test demands.

Cardiology

Q1. In the auscultation timing diagram, the murmur (shaded, marked X) occupies mid-diastole, between S2 and the following S1. This low-pitched rumbling murmur, best heard at the apex with the bell in the left lateral position, is characteristic of:

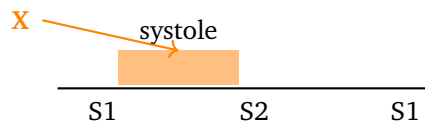


- (A) Aortic stenosis
- (B) Mitral regurgitation
- (C) Mitral stenosis



(D) Aortic regurgitation

Q2. In the timing diagram, the murmur (shaded, marked X) peaks in mid-systole, between S1 and S2. Best heard at the right second intercostal space and radiating to the carotids, this ejection systolic murmur indicates:



- (A) Aortic stenosis
- (B) Mitral stenosis
- (C) Tricuspid regurgitation
- (D) Pulmonary regurgitation

Q3. Worldwide, the single most common cause of mitral stenosis is:

- (A) Congenital valve malformation
- (B) Rheumatic heart disease
- (C) Infective endocarditis
- (D) Degenerative calcification

Respiratory Medicine

Q4. A 30-year-old man has three weeks of cough, evening fever, night sweats and weight loss. The most rapid confirmatory test, detecting *Mycobacterium tuberculosis* DNA together with rifampicin resistance, is:

- (A) Chest radiograph
- (B) Mantoux (tuberculin) test
- (C) Sputum smear for acid-fast bacilli
- (D) CBNAAT (GeneXpert nucleic acid amplification test)

Q5. The correct four-drug intensive-phase regimen for a new case of drug-sensitive pulmonary tuberculosis is:



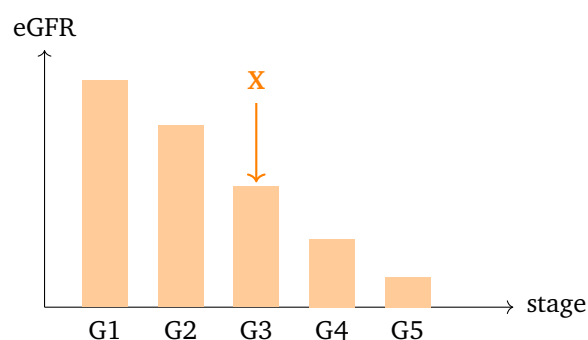
- (A) Isoniazid and rifampicin only
- (B) Rifampicin, ethambutol and streptomycin
- (C) Isoniazid, rifampicin, pyrazinamide and ethambutol
- (D) Isoniazid and pyrazinamide only

Gastroenterology and Hepatology

- Q6.** The single most common cause of peptic ulcer disease worldwide is:
- (A) NSAID (non-steroidal anti-inflammatory drug) use
 - (B) Zollinger-Ellison syndrome
 - (C) *Helicobacter pylori* infection
 - (D) Psychological stress
- Q7.** A patient presents with haematemesis and melaena from a bleeding gastric ulcer. After resuscitation and endoscopic haemostasis, the key pharmacological agent that reduces rebleeding is:
- (A) An oral antacid
 - (B) An H₂-receptor antagonist
 - (C) Sucralfate
 - (D) An intravenous proton pump inhibitor

Endocrinology and Nephrology

- Q8.** The chart plots chronic kidney disease (CKD) categories against estimated glomerular filtration rate (eGFR). A patient whose eGFR is 40 mL/min/1.73 m² (bar marked X) is classified as:



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

Q9. The principal mechanism of the normocytic normochromic anaemia that develops in chronic kidney disease is:

- (A) Iron overload
- (B) Erythropoietin deficiency
- (C) Vitamin B12 deficiency
- (D) Autoimmune haemolysis

Q10. Which of the following is an urgent (emergency) indication for initiating dialysis in a patient with chronic kidney disease?

- (A) Refractory hyperkalaemia
- (B) Mild well-controlled hypertension
- (C) Stable stage 3 CKD
- (D) Isolated non-nephrotic proteinuria

Neurology

Q11. The characteristic tremor of Parkinson's disease is:

- (A) A resting, pill-rolling tremor that lessens on movement
- (B) An intention tremor that worsens on reaching a target
- (C) A postural tremor of outstretched hands
- (D) Titubation (a rhythmic head tremor)

Q12. The most effective drug for the symptomatic control of motor features in Parkinson's disease, replenishing central dopamine, is:

- (A) Propranolol



- (B) Amantadine
- (C) Selegiline
- (D) Levodopa combined with carbidopa

Infectious Diseases, Hematology and Rheumatology

- Q13.** A young woman has a malar rash, photosensitivity and polyarthrititis. The most sensitive antibody test to screen for systemic lupus erythematosus (SLE) is:
- (A) Antinuclear antibody (ANA)
 - (B) Rheumatoid factor
 - (C) Anti-cyclic citrullinated peptide (anti-CCP)
 - (D) Anti-Scl-70 antibody
- Q14.** Which autoantibody is highly specific for SLE and, when its titre rises, correlates with lupus nephritis activity?
- (A) Antinuclear antibody (ANA)
 - (B) Anti-histone antibody
 - (C) Anti-double-stranded DNA (anti-dsDNA)
 - (D) Anti-Ro (SSA) antibody
- Q15.** Which of the following is a recognised haematological criterion in the classification of SLE?
- (A) Polycythaemia
 - (B) Autoimmune haemolytic anaemia or leukopenia
 - (C) Reactive thrombocytosis
 - (D) Eosinophilia



Detailed Solutions**Q1.****Solution**

Concept – timing tells the lesion: The moment a murmur falls in the cardiac cycle points to the valve.

Step 1 – read the diagram: The shaded murmur (X) sits between S2 and the next S1, so it is **mid-diastolic**.

Step 2 – match the lesion: A low-pitched rumbling mid-diastolic murmur at the apex, loudest in the left lateral position, is **mitral stenosis**. The narrowed mitral valve obstructs left atrial filling of the left ventricle in diastole.

Why the other options are wrong:

- A, aortic stenosis: an ejection systolic murmur, not diastolic.
- B, mitral regurgitation: a pansystolic murmur at the apex.
- D, aortic regurgitation: an early-diastolic decrescendo murmur at the left sternal edge, not the apical rumble shown.

Final Answer: Mitral stenosis $\Rightarrow$ C

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

Q2.**Solution**

Concept – systolic ejection murmur: A murmur peaking between S1 and S2 is systolic.

Step 1 – read the diagram: The shaded murmur (X) lies between S1 and S2, peaking in **mid-systole**.

Step 2 – match the lesion: An ejection (crescendo-decrescendo) systolic murmur at the right second intercostal space that radiates to the carotids is **aortic stenosis**. Blood is forced through the narrowed aortic valve during ventricular ejection.

Why the other options are wrong:

- B, mitral stenosis: a mid-diastolic murmur, wrong timing.
- C, tricuspid regurgitation: a pansystolic murmur at the left sternal edge, louder on inspiration, without carotid radiation.
- D, pulmonary regurgitation: an early-diastolic murmur.



Final Answer: Aortic stenosis $\Rightarrow$ A

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

Q3.

Solution

Concept – aetiology of mitral stenosis: Most cases follow a preventable illness.

Step 1 – name the cause: **Rheumatic heart disease** is by far the commonest cause of mitral stenosis worldwide.

Step 2 – mechanism: Repeated rheumatic inflammation after group A streptococcal pharyngitis thickens and fuses the mitral commissures, narrowing the valve over years.

Why the other options are wrong:

- A, congenital: a rare cause (e.g. parachute mitral valve).
- C, infective endocarditis: more often causes regurgitation from valve destruction.
- D, degenerative calcification: contributes in the elderly but is far less common than rheumatic disease.

Final Answer: Rheumatic heart disease $\Rightarrow$ B

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

Q4.

Solution

Concept – rapid TB diagnosis: Molecular tests give the fastest confirmation with drug-resistance data.

Step 1 – identify the clue: The clinical picture (chronic cough, evening fever, night sweats, weight loss) is classic pulmonary tuberculosis.

Step 2 – choose the test: **CBNAAT (GeneXpert)** amplifies *M. tuberculosis* DNA and simultaneously detects rifampicin resistance within about two hours, so it is the rapid confirmatory investigation.

Why the other options are wrong:

- A, chest radiograph: suggestive but never confirmatory.
- B, Mantoux test: indicates exposure, not active disease, and gives no resistance data.



- C, sputum smear: quick but far less sensitive and gives no resistance data.

Final Answer: CBNAAT (GeneXpert) ⇒ D

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

Q5.

Solution

Concept – first-line TB regimen: The intensive phase uses four drugs.

Step 1 – recall the regimen: A new drug-sensitive case receives a two-month intensive phase of **isoniazid, rifampicin, pyrazinamide and ethambutol (HRZE)**, followed by four months of isoniazid and rifampicin.

Step 2 – rationale: Four drugs together clear the bacillary load fast and prevent emergence of resistance.

Why the other options are wrong:

- A, isoniazid and rifampicin only: this is the continuation phase, inadequate to start.
- B, rifampicin, ethambutol and streptomycin: omits isoniazid and pyrazinamide.
- D, isoniazid and pyrazinamide only: two drugs, insufficient and resistance-prone.

Final Answer: Isoniazid + rifampicin + pyrazinamide + ethambutol ⇒ C

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

Q6.

Solution

Concept – cause of peptic ulcer: One infection dominates.

Step 1 – name it: **Helicobacter pylori** infection is the commonest cause of peptic ulcer disease, responsible for the majority of duodenal and most gastric ulcers.

Step 2 – mechanism: The organism damages the mucosal barrier and drives excess acid, so eradication (triple therapy) heals the ulcer and prevents recurrence.

Why the other options are wrong:

- A, NSAID use: the second commonest cause, but less frequent than H. pylori.
- B, Zollinger-Ellison syndrome: a rare gastrin-secreting tumour cause.



- D, stress: not an established primary cause of chronic peptic ulcers.

Final Answer: Helicobacter pylori infection $\Rightarrow$

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

Q7.

Solution

Concept – managing an upper GI bleed: Acid suppression stabilises the clot.

Step 1 – recall the sequence: After resuscitation and endoscopic haemostasis of a bleeding ulcer, an **intravenous proton pump inhibitor** is given.

Step 2 – rationale: Raising gastric pH above 6 stabilises the platelet plug and fibrin clot, reducing rebleeding and the need for surgery.

Why the other options are wrong:

- A, oral antacid: far too weak and slow for an acute bleed.
- B, H₂-receptor antagonist: weaker acid suppression, not the standard.
- C, sucralfate: a mucosal coating agent, not the agent that reduces rebleeding here.

Final Answer: Intravenous proton pump inhibitor $\Rightarrow$

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

Q8.

Solution

Concept – CKD staging by eGFR: Stages G1 to G5 are defined by falling eGFR.

Step 1 – read the chart: The bar marked X corresponds to an eGFR of 40 mL/min/1.73 m².

Step 2 – assign the stage: Stage 3 (G3) covers eGFR 30 to 59; within it, 30 to 44 is G3b. An eGFR of 40 therefore falls in **Stage 3 CKD**.

Why the other options are wrong:

- A, Stage 2: eGFR 60 to 89, higher than 40.
- C, Stage 4: eGFR 15 to 29, lower than 40.
- D, Stage 5: eGFR below 15 (kidney failure), far lower.

Final Answer: Stage 3 CKD $\Rightarrow$



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

Q9.

Solution

Concept – anaemia of CKD: The failing kidney is an endocrine organ too.

Step 1 – name the mechanism: **Erythropoietin deficiency** is the principal cause. Peritubular cells produce less erythropoietin as renal mass falls, so marrow red-cell production drops.

Step 2 – character: This gives a normocytic normochromic anaemia, treated with erythropoiesis-stimulating agents and iron.

Why the other options are wrong:

- A, iron overload: CKD patients tend to be iron deficient, not overloaded.
- C, vitamin B12 deficiency: causes a macrocytic anaemia, not the typical CKD picture.
- D, autoimmune haemolysis: not the mechanism of CKD anaemia.

Final Answer: Erythropoietin deficiency $\Rightarrow$ B

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

Q10.

Solution

Concept – when to start dialysis: Urgent indications follow the AEIOU mnemonic.

Step 1 – identify the emergency: **Refractory hyperkalaemia** (the E, electrolyte disturbance) that does not respond to medical therapy is a life-threatening indication because it risks fatal arrhythmia.

Step 2 – the full list: Acidosis, Electrolytes (hyperkalaemia), Intoxication, Overload (refractory fluid overload) and Uraemia (pericarditis, encephalopathy) are the urgent triggers.

Why the other options are wrong:

- B, mild controlled hypertension: managed with drugs, not dialysis.
- C, stable stage 3 CKD: managed conservatively, no dialysis.
- D, isolated proteinuria: needs work-up, not urgent dialysis.



Final Answer: Refractory hyperkalaemia $\Rightarrow$ **A**

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

Q11.

Solution

Concept – Parkinsonian tremor: The tremor's behaviour identifies it.

Step 1 – describe it: Parkinson's disease gives a **resting, pill-rolling tremor** at about 4 to 6 Hz that is present at rest and diminishes when the limb moves purposefully.

Step 2 – associated signs: It accompanies bradykinesia, cogwheel rigidity and postural instability.

Why the other options are wrong:

- B, intention tremor: a cerebellar sign, worsening near a target.
- C, postural tremor: typical of essential tremor, seen on holding a posture.
- D, titubation: a cerebellar head tremor, not Parkinsonian.

Final Answer: Resting (pill-rolling) tremor $\Rightarrow$ **A**

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

Q12.

Solution

Concept – dopaminergic therapy: Replacing dopamine gives the greatest benefit.

Step 1 – name the drug: Levodopa with carbidopa is the most effective symptomatic treatment. Levodopa crosses the blood-brain barrier and is converted to dopamine.

Step 2 – role of carbidopa: Carbidopa is a peripheral decarboxylase inhibitor; it blocks peripheral conversion, so more levodopa reaches the brain and side effects fall.

Why the other options are wrong:

- A, propranolol: used for essential tremor, not Parkinson's.
- B, amantadine: modestly helps dyskinesia, weaker than levodopa.
- C, selegiline: a MAO-B inhibitor with limited symptomatic effect.

Final Answer: Levodopa with carbidopa $\Rightarrow$ **D**



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

Q13.

Solution

Concept – screening for SLE: A sensitive test rules the disease out when negative.

Step 1 – name the test: The **antinuclear antibody (ANA)** is the most sensitive screen for SLE, positive in almost all patients.

Step 2 – interpretation: A negative ANA makes SLE very unlikely; a positive result is confirmed with more specific antibodies.

Why the other options are wrong:

- B, rheumatoid factor: for rheumatoid arthritis, not specific here.
- C, anti-CCP: highly specific for rheumatoid arthritis.
- D, anti-Scl-70: associated with systemic sclerosis.

Final Answer: Antinuclear antibody (ANA) ⇒ **A**

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

Q14.

Solution

Concept – specific SLE antibodies: A specific antibody confirms and tracks disease.

Step 1 – name it: **Anti-double-stranded DNA (anti-dsDNA)** is highly specific for SLE, and its titre rises with disease flares, especially lupus nephritis.

Step 2 – use: It is monitored, alongside complement levels, to gauge activity of renal involvement.

Why the other options are wrong:

- A, ANA: sensitive but not specific.
- B, anti-histone: characteristic of drug-induced lupus.
- D, anti-Ro (SSA): linked with Sjogren syndrome and neonatal lupus, not nephritis activity.

Final Answer: Anti-double-stranded DNA (anti-dsDNA) ⇒ **C**

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



Q15.

Solution

Concept – haematological features of SLE: Lupus attacks all three blood lineages.

Step 1 – name the criterion: Autoimmune haemolytic anaemia or leukopenia (also lymphopenia and thrombocytopenia) are recognised haematological classification criteria for SLE.

Step 2 – mechanism: Autoantibodies against blood cells drive their destruction, giving cytopenias.

Why the other options are wrong:

- A, polycythaemia: SLE causes anaemia, not raised red-cell mass.
- C, thrombocytosis: SLE causes thrombocytopenia, the opposite.
- D, eosinophilia: not a feature of SLE.

Final Answer: Autoimmune haemolytic anaemia or leukopenia ⇒ B

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



Answer Key

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

