

INI CET Medicine

Sample Paper – 5

Duration: 14 Minutes

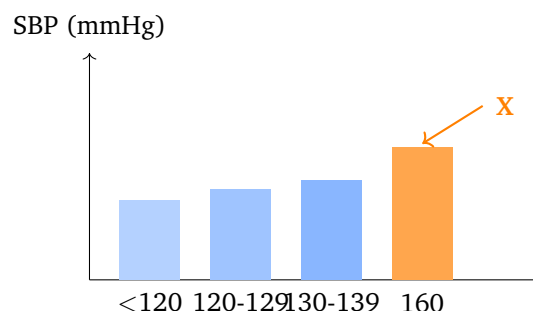
Maximum Marks: 15

Instructions

- This paper contains **15** Multiple Choice Questions (Single Best Response), modelled on the Medicine (Internal 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 blood-pressure staging chart shown, the shaded bar marked X represents a systolic pressure of 160 mmHg. According to the ACC/AHA classification, this value falls in the category of:



(A) Stage 2 hypertension



- (B) Normal blood pressure
- (C) Elevated blood pressure
- (D) Stage 1 hypertension

Q2. A 55-year-old man presents with blood pressure 220/130 mmHg together with severe headache, papilloedema and acute kidney injury. This presentation is best described as:

- (A) White-coat hypertension
- (B) Isolated systolic hypertension
- (C) Hypertensive emergency
- (D) Prehypertension

Q3. Which of the following is the most common cause of secondary hypertension in the adult population?

- (A) Pheochromocytoma
- (B) Coarctation of the aorta
- (C) Renal parenchymal and renovascular disease
- (D) Primary hypothyroidism

Respiratory Medicine

Q4. The characteristic high-resolution CT appearance of idiopathic pulmonary fibrosis, showing subpleural, basal-predominant reticulation with honeycombing, is termed the:

- (A) Ground-glass opacification pattern
- (B) Tree-in-bud pattern
- (C) Crazy-paving pattern
- (D) Usual interstitial pneumonia (UIP) pattern

Q5. A young adult with bilateral hilar lymphadenopathy, non-caseating epithelioid granulomas on biopsy and a raised serum angiotensin-converting enzyme level most likely has:



- (A) Sarcoidosis
- (B) Idiopathic pulmonary fibrosis
- (C) Hypersensitivity pneumonitis
- (D) Silicosis

Gastroenterology and Hepatology

Q6. The two most common causes of acute pancreatitis worldwide are:

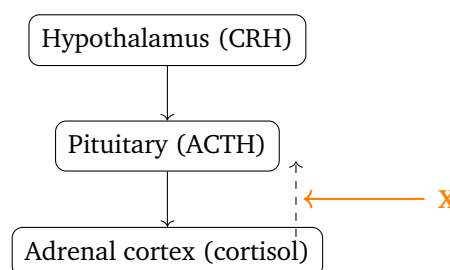
- (A) Hypercalcaemia and hypertriglyceridaemia
- (B) Trauma and post-ERCP injury
- (C) Gallstones and alcohol
- (D) Mumps and scorpion sting

Q7. Which scoring system, using eleven clinical and laboratory parameters recorded at admission and again at 48 hours, is used to assess the severity of acute pancreatitis?

- (A) Child-Pugh score
- (B) Ranson's criteria
- (C) Glasgow Coma Scale
- (D) MELD score

Endocrinology and Nephrology

Q8. The diagram shows the hypothalamic-pituitary-adrenal axis, in which cortisol normally exerts negative feedback (dashed arrow) on the pituitary. In a patient with an ACTH-secreting pituitary adenoma (Cushing disease), the feedback marked **X** is:



- (A) Increased, so that ACTH is fully suppressed
- (B) Replaced by aldosterone-driven feedback
- (C) Absent because cortisol levels are low
- (D) Impaired, so ACTH secretion continues despite the high cortisol

Q9. A patient presents with fatigue, weight loss, skin hyperpigmentation, hyponatraemia and hyperkalaemia, and is found to have primary adrenal insufficiency. This condition is:

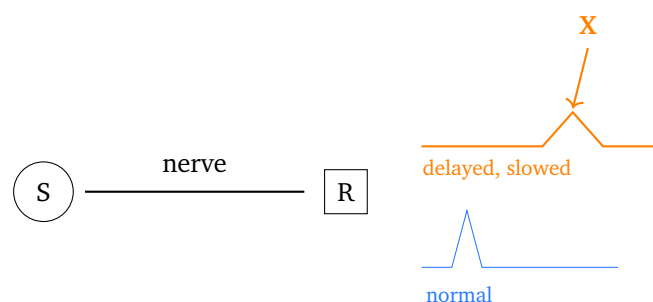
- (A) Addison disease
- (B) Cushing syndrome
- (C) Conn syndrome
- (D) Pheochromocytoma

Q10. Episodic headache, palpitations and sweating with paroxysmal hypertension, caused by a catecholamine-secreting tumour of the adrenal medulla, is best confirmed biochemically by measuring:

- (A) Serum cortisol
- (B) Plasma renin activity
- (C) Plasma free metanephrines
- (D) Serum calcitonin

Neurology

Q11. The nerve-conduction schematic shows a stimulating (S) and recording (R) electrode. Compared with the normal trace, the response marked X is markedly delayed and slowed. In a patient with ascending weakness and areflexia, this demyelinating pattern is characteristic of:



- (A) Amyotrophic lateral sclerosis
- (B) Guillain-Barre syndrome
- (C) Myasthenia gravis
- (D) Duchenne muscular dystrophy

Q12. In Guillain-Barre syndrome, the classic cerebrospinal fluid finding of a raised protein level with a normal cell count is called:

- (A) Froin syndrome
- (B) Albuminocytologic dissociation
- (C) Pleocytosis
- (D) Xanthochromia

Infectious Diseases, Hematology and Rheumatology

Q13. Which antibody is the most specific serological marker for rheumatoid arthritis?

- (A) Anti-cyclic citrullinated peptide (anti-CCP) antibody
- (B) Rheumatoid factor (IgM)
- (C) Antinuclear antibody (ANA)
- (D) Anti-double-stranded DNA antibody

Q14. A young man has inflammatory low back pain, radiological sacroiliitis and a “bamboo spine”, with a negative rheumatoid factor. This seronegative spondyloarthropathy is most strongly associated with which HLA allele?

- (A) HLA-DR4
- (B) HLA-DR3
- (C) HLA-DQ2
- (D) HLA-B27

Q15. The pattern of joint involvement most typical of rheumatoid arthritis is:



- (A) Asymmetric involvement of the distal interphalangeal joints
- (B) Symmetric involvement of the small joints of the hands and feet (MCP and PIP joints)
- (C) Monoarthritis of the first metatarsophalangeal joint
- (D) Involvement of the axial skeleton only



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

Concept – blood-pressure staging: Blood-pressure categories are defined by systolic and diastolic thresholds.

Step 1 – read the chart: The bar marked X corresponds to a systolic pressure of 160 mmHg.

Step 2 – apply the ACC/AHA thresholds: Normal is below 120 mmHg, elevated is 120 to 129 mmHg, stage 1 is 130 to 139 mmHg, and stage 2 is 140 mmHg or higher.

Step 3 – classify: A systolic value of 160 mmHg is well above 140 mmHg, so it lies in **stage 2 hypertension**.

Why the other options are wrong:

- B, normal: only for systolic below 120 mmHg.
- C, elevated: only 120 to 129 mmHg.
- D, stage 1: only 130 to 139 mmHg.

Final Answer: Stage 2 hypertension $\Rightarrow$ **A**

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

Q2.**Solution**

Concept – hypertensive emergency: A hypertensive emergency is severe blood-pressure elevation with acute target-organ damage.

Step 1 – read the vitals: The blood pressure is 220/130 mmHg, which is severely elevated.

Step 2 – look for organ damage: Papilloedema (retina and brain), severe headache and acute kidney injury all indicate ongoing end-organ injury.

Step 3 – label it: Severe hypertension plus acute target-organ damage defines a **hypertensive emergency**, which needs prompt, controlled blood-pressure lowering.

Why the other options are wrong:

- A, white-coat hypertension: raised readings only in clinic, no organ damage.



- B, isolated systolic hypertension: high systolic with normal diastolic, not this picture.
- D, prehypertension: a mild elevation, not a crisis.

Final Answer: Hypertensive emergency $\Rightarrow$ C

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

Q3.

Solution

Concept – secondary hypertension: Most hypertension is primary (essential), but a minority has an identifiable cause.

Step 1 – recall the commonest secondary cause: Renal parenchymal and renovascular disease is the single most common cause of secondary hypertension in adults.

Step 2 – mechanism: Reduced renal perfusion activates the renin-angiotensin-aldosterone system, raising blood pressure.

Why the other options are wrong:

- A, phaeochromocytoma: a rare catecholamine-secreting cause.
- B, coarctation of the aorta: an uncommon structural cause, mainly in the young.
- D, primary hypothyroidism: can raise diastolic pressure but is a minor contributor.

Final Answer: Renal parenchymal and renovascular disease $\Rightarrow$ C

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

Q4.

Solution

Concept – imaging in interstitial lung disease: The CT pattern helps identify the type of fibrosis.

Step 1 – match idiopathic pulmonary fibrosis: IPF shows subpleural, basal-predominant reticulation with honeycombing, which is the **usual interstitial pneumonia (UIP) pattern**.

Step 2 – significance: A confident UIP pattern on HRCT can establish the diagnosis without biopsy.



Why the other options are wrong:

- A, ground-glass: hazy opacity, more typical of active alveolitis or infection.
- B, tree-in-bud: small-airway disease such as infective bronchiolitis.
- C, crazy-paving: seen in alveolar proteinosis and some pneumonias.

Final Answer: Usual interstitial pneumonia (UIP) pattern ⇒ D

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

Q5.

Solution

Concept – granulomatous lung disease: Non-caseating granulomas with hilar nodes suggest a specific diagnosis.

Step 1 – read the clues: Bilateral hilar lymphadenopathy, non-caseating epithelioid granulomas and a raised serum ACE point to **sarcoidosis**.

Step 2 – confirm: Sarcoidosis is a multisystem disease; the lung and hilar nodes are the commonest sites.

Why the other options are wrong:

- B, IPF: fibrosis without granulomas or hilar nodes.
- C, hypersensitivity pneumonitis: antigen exposure with poorly formed granulomas, not hilar adenopathy.
- D, silicosis: occupational dust exposure with nodules, sometimes eggshell node calcification, not this profile.

Final Answer: Sarcoidosis ⇒ A

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

Q6.

Solution

Concept – causes of acute pancreatitis: A short list of causes accounts for most cases.

Step 1 – name the top two: Gallstones and alcohol together cause the large majority of acute pancreatitis worldwide.

Step 2 – mechanism: Gallstones obstruct the pancreatic duct, and alcohol has a direct toxic effect on acinar cells.



Why the other options are wrong:

- A, hypercalcaemia and hypertriglyceridaemia: recognised but less common metabolic causes.
- B, trauma and post-ERCP: uncommon iatrogenic or injury-related causes.
- D, mumps and scorpion sting: rare causes often quoted in mnemonics only.

Final Answer: Gallstones and alcohol $\Rightarrow$ C

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

Q7.

Solution

Concept – severity scoring in pancreatitis: Early risk stratification guides management.

Step 1 – name the score: Ranson’s criteria use eleven parameters, five at admission and six at 48 hours, to predict severity and mortality.

Step 2 – use: A higher number of positive criteria indicates more severe disease.

Why the other options are wrong:

- A, Child-Pugh: grades chronic liver disease severity.
- C, Glasgow Coma Scale: assesses level of consciousness (note the separate Glasgow-Imrie pancreatitis score is different).
- D, MELD: predicts mortality in liver disease and prioritises transplant.

Final Answer: Ranson’s criteria $\Rightarrow$ B

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

Q8.

Solution

Concept – feedback in the HPA axis: Cortisol normally suppresses pituitary ACTH by negative feedback.

Step 1 – identify X: X marks the negative-feedback arrow from cortisol to the pituitary.

Step 2 – apply to Cushing disease: An ACTH-secreting pituitary adenoma is relatively resistant to feedback, so the feedback is **impaired and ACTH secretion continues despite the high cortisol**.



Step 3 – consequence: Persistent ACTH drives adrenal cortisol overproduction, producing the clinical syndrome.

Why the other options are wrong:

- A, increased feedback: would suppress ACTH, the opposite of the disease.
- B, aldosterone feedback: aldosterone does not regulate ACTH.
- C, absent because cortisol is low: cortisol is high, not low, in Cushing disease.

Final Answer: Impaired feedback with continued ACTH $\Rightarrow$

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

Q9.

Solution

Concept – primary adrenal insufficiency: Loss of adrenal cortical hormones gives a distinctive picture.

Step 1 – read the features: Fatigue, weight loss, hyperpigmentation, hyponatraemia and hyperkalaemia indicate primary adrenal insufficiency, that is **Addison disease**.

Step 2 – explain the signs: Low cortisol raises ACTH (and melanocyte-stimulating peptide), causing hyperpigmentation; low aldosterone causes salt loss and potassium retention.

Why the other options are wrong:

- B, Cushing syndrome: cortisol excess, not deficiency.
- C, Conn syndrome: aldosterone excess with hypokalaemia, the opposite electrolyte pattern.
- D, pheochromocytoma: catecholamine excess with paroxysmal hypertension.

Final Answer: Addison disease $\Rightarrow$

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



Q10.

Solution

Concept – diagnosis of pheochromocytoma: A catecholamine-secreting tumour is confirmed by its metabolites.

Step 1 – name the test: Plasma free metanephrines are the most sensitive first-line test for pheochromocytoma.

Step 2 – rationale: Metanephrines are produced continuously within the tumour, so they are elevated even between paroxysms.

Why the other options are wrong:

- A, serum cortisol: assesses the adrenal cortex, not the medulla.
- B, plasma renin: used for renovascular and mineralocorticoid disorders.
- D, serum calcitonin: a marker of medullary thyroid carcinoma.

Final Answer: Plasma free metanephrines ⇒ C

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

Q11.

Solution

Concept – nerve conduction in neuropathy: Demyelination slows conduction and prolongs latency.

Step 1 – read the trace: The response marked X is delayed and slowed, indicating a demyelinating polyneuropathy.

Step 2 – match the clinical picture: Ascending weakness with areflexia and a demyelinating study is typical of **Guillain-Barre syndrome**.

Why the other options are wrong:

- A, ALS: a motor neurone disease with normal sensory conduction and denervation on EMG, not demyelination.
- C, myasthenia gravis: a neuromuscular junction disorder, shows a decremental response on repetitive stimulation, normal conduction velocity.
- D, Duchenne muscular dystrophy: a primary muscle disease with myopathic changes, not nerve slowing.

Final Answer: Guillain-Barre syndrome ⇒ B

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



Q12.

Solution

Concept – CSF in Guillain-Barre syndrome: The spinal fluid shows a characteristic mismatch.

Step 1 – name the finding: Raised protein with a normal cell count is called **albuminocytologic dissociation**.

Step 2 – timing: It is often absent in the first week and becomes evident after one to two weeks.

Why the other options are wrong:

- A, Froin syndrome: raised protein with xanthochromia and clotting due to spinal block, a different entity.
- C, pleocytosis: a raised cell count, which is not seen here.
- D, xanthochromia: yellow CSF from blood breakdown, seen after subarachnoid haemorrhage.

Final Answer: Albuminocytologic dissociation ⇒ **B**

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

Q13.

Solution

Concept – serology in rheumatoid arthritis: Two antibodies are commonly tested, with different roles.

Step 1 – name the most specific: **Anti-cyclic citrullinated peptide (anti-CCP)** antibody is the most specific marker for rheumatoid arthritis.

Step 2 – contrast with RF: Rheumatoid factor is more sensitive but less specific, as it also occurs in other conditions and in healthy people.

Why the other options are wrong:

- B, rheumatoid factor: sensitive but not specific.
- C, ANA: a screening test for connective-tissue disease, especially SLE.
- D, anti-dsDNA: specific for systemic lupus erythematosus, not RA.

Final Answer: Anti-CCP antibody ⇒ **A**

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



Q14.

Solution

Concept – seronegative spondyloarthropathy: Ankylosing spondylitis is the prototype, rheumatoid-factor negative.

Step 1 – read the clues: Inflammatory low back pain, sacroiliitis and a bamboo spine describe ankylosing spondylitis.

Step 2 – name the association: It is most strongly linked with **HLA-B27**.

Why the other options are wrong:

- A, HLA-DR4: associated with rheumatoid arthritis.
- B, HLA-DR3: associated with SLE and type 1 diabetes.
- C, HLA-DQ2: associated with coeliac disease.

Final Answer: HLA-B27 ⇒

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

Q15.

Solution

Concept – joint pattern in rheumatoid arthritis: The distribution of affected joints is diagnostic.

Step 1 – describe the pattern: RA causes **symmetric involvement of the small joints of the hands and feet**, especially the metacarpophalangeal and proximal interphalangeal joints.

Step 2 – note the sparing: The distal interphalangeal joints are characteristically spared, unlike osteoarthritis and psoriatic arthritis.

Why the other options are wrong:

- A, asymmetric DIP involvement: suggests osteoarthritis or psoriatic arthritis.
- C, first MTP monoarthritis: the classic site of acute gout.
- D, axial skeleton only: describes ankylosing spondylitis, not RA.

Final Answer: Symmetric small-joint (MCP and PIP) involvement ⇒

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



Answer Key

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

