

INI CET Medicine

Sample Paper – 6

Duration: 14 Minutes

Maximum Marks: 15

Instructions

- This paper contains **15** Multiple Choice Questions (Single Best Response), modelled on the 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.** The most common cause of subacute infective endocarditis developing on a previously abnormal (for example rheumatic) native valve is:
- (A) Staphylococcus aureus
(B) Viridans group streptococci
(C) Enterococcus faecalis
(D) HACEK group organisms
- Q2.** In the modified Duke criteria for infective endocarditis, which one of the following is counted as a **major** criterion?
- (A) Echocardiographic evidence of an oscillating intracardiac vegetation



- (B) Fever above 38 degrees Celsius
- (C) A predisposing heart condition or injection drug use
- (D) Vascular phenomena such as Janeway lesions

Q3. In a patient who is not an injection drug user, the vegetations of infective endocarditis most commonly involve which valve?

- (A) Mitral valve
- (B) Tricuspid valve
- (C) Pulmonary valve
- (D) Eustachian valve

Respiratory Medicine

Q4. The chart compares two pleural fluid patterns. Applying Light's criteria, a pleural effusion is classified as an **exudate** when the value marked **X** is met, namely:

Transudate	Exudate
Protein ratio < 0.5	Protein ratio > 0.5 — X
LDH ratio < 0.6	LDH ratio > 0.6
Low LDH	High LDH

- (A) Pleural fluid to serum protein ratio less than 0.5
- (B) Pleural fluid to serum LDH ratio less than 0.6
- (C) Pleural fluid LDH below two-thirds of the upper limit of normal serum LDH
- (D) Pleural fluid to serum protein ratio greater than 0.5

Q5. Which of the following conditions most characteristically produces a **transudative** pleural effusion?

- (A) Malignant pleural involvement
- (B) Congestive cardiac failure
- (C) Tuberculous pleurisy



(D) Parapneumonic effusion

Gastroenterology and Hepatology

Q6. A patient with cirrhosis who is somnolent but rousable, with gross disorientation and marked confusion, is classified under which grade of the West Haven criteria for hepatic encephalopathy?

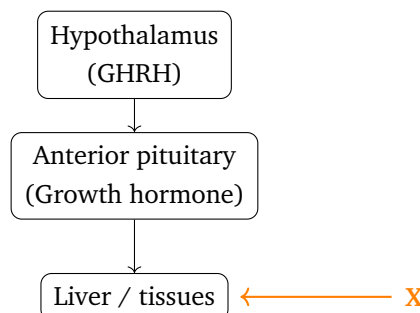
- (A) Grade I
- (B) Grade II
- (C) Grade III
- (D) Grade IV

Q7. Which of the following is the single most important precipitating factor for hepatic encephalopathy in a patient with established cirrhosis?

- (A) Hyperkalaemia
- (B) Hypervolaemia
- (C) Gastrointestinal bleeding
- (D) Metabolic alkalosis alone with normal potassium

Endocrinology and Nephrology

Q8. The diagram shows the growth hormone axis. The peripheral (target-tissue) mediator marked X, whose measurement is the best single screening test for acromegaly, is:



- (A) A single random growth hormone level
- (B) Adrenocorticotrophic hormone (ACTH)



- (C) Prolactin
- (D) Insulin-like growth factor 1 (IGF-1)

Q9. The first-line treatment for a symptomatic prolactinoma, including most macroadenomas, is:

- (A) Trans-sphenoidal surgery
- (B) External beam radiotherapy
- (C) A dopamine agonist such as cabergoline
- (D) A somatostatin analogue such as octreotide

Q10. Central diabetes insipidus is best characterised by:

- (A) Concentrated urine with a high urine osmolality
- (B) Deficiency of antidiuretic hormone (ADH) with production of large volumes of dilute urine
- (C) Normal ADH levels with renal tubular resistance to ADH
- (D) Hyponatraemia with inappropriately concentrated urine

Neurology

Q11. Which of the following is a characteristic clinical feature of multiple sclerosis?

- (A) Internuclear ophthalmoplegia from a medial longitudinal fasciculus lesion
- (B) A pill-rolling resting tremor
- (C) A symmetrical ascending flaccid paralysis over days
- (D) A festinant, shuffling gait with cogwheel rigidity

Q12. In the workup of multiple sclerosis, which cerebrospinal fluid finding most strongly supports the diagnosis?

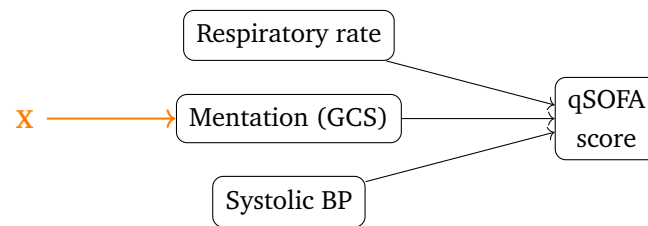
- (A) A markedly low CSF glucose
- (B) Oligoclonal IgG bands on CSF electrophoresis not present in serum



- (C) Albuminocytologic dissociation with very high protein and normal cells
- (D) A neutrophilic pleocytosis

Infectious Diseases, Hematology and Rheumatology

Q13. The flow chart shows the bedside qSOFA score used to flag patients at risk of poor outcomes from sepsis. The three criteria collected at the point marked **X** are:



- (A) Temperature above 38, heart rate above 90, and white cell count above 12000
 - (B) Serum lactate, procalcitonin, and C-reactive protein
 - (C) Respiratory rate 22 or more, altered mentation (GCS below 15), and systolic BP 100 or less
 - (D) Central venous pressure, urine output, and mixed venous oxygen saturation
- Q14.** Septic shock is defined as sepsis with persisting hypotension needing vasopressors to keep the mean arterial pressure at 65 or above, together with a serum lactate above which threshold despite adequate fluid resuscitation?
- (A) 2 mmol/L
 - (B) 0.5 mmol/L
 - (C) 8 mmol/L
 - (D) 12 mmol/L
- Q15.** According to the Surviving Sepsis Campaign hour-1 bundle, the correct initial approach in a patient with septic shock is to:



- (A) Withhold antibiotics until blood culture results return
- (B) Restrict all intravenous fluids to avoid pulmonary oedema
- (C) Start vasopressors first and defer measuring lactate
- (D) Measure lactate, obtain blood cultures before antibiotics, give broad-spectrum antibiotics, and begin crystalloid resuscitation



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

Concept – microbiology of endocarditis: The organism follows the clinical tempo and the valve substrate.

Step 1 – match the subacute picture: Subacute infective endocarditis on a previously damaged (rheumatic or myxomatous) valve is caused most often by **viridans group streptococci**, low-virulence mouth commensals.

Step 2 – reasoning: These organisms adhere to already abnormal endothelium and produce an indolent, weeks-long illness.

Why the other options are wrong:

- A, *Staphylococcus aureus*: the leading cause of acute endocarditis, including on normal valves and in injection drug users.
- C, *Enterococcus faecalis*: linked to genitourinary or gastrointestinal manipulation, not the classic subacute native-valve cause.
- D, HACEK organisms: fastidious Gram-negatives causing a minority of culture-negative cases.

Final Answer: Viridans group streptococci ⇒ B

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

Q2.**Solution**

Concept – modified Duke criteria: Findings are split into major and minor criteria.

Step 1 – recall the two majors: The major criteria are positive blood cultures with typical organisms and **echocardiographic evidence of endocardial involvement** (an oscillating vegetation, abscess, or new valvular regurgitation).

Step 2 – apply: An oscillating intracardiac vegetation on echocardiography is therefore a major criterion.

Why the other options are wrong:

- B, fever above 38: a minor criterion.
- C, predisposing heart condition or drug use: a minor criterion.
- D, vascular phenomena such as Janeway lesions: a minor criterion.



Final Answer: Echocardiographic vegetation $\Rightarrow$ A

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

Q3.

Solution

Concept – valve involvement: Side and valve depend on the patient group.

Step 1 – identify the usual valve: In patients who are not injection drug users, endocarditis is predominantly left-sided, and the **mitral valve** is the most commonly affected.

Step 2 – contrast: Right-sided (tricuspid) endocarditis is the pattern typical of injection drug use.

Why the other options are wrong:

- B, tricuspid: the classic valve in injection drug users, not the general population.
- C, pulmonary: rarely involved.
- D, eustachian valve: a normal venous-valve remnant, not a typical site of vegetations.

Final Answer: Mitral valve $\Rightarrow$ A

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

Q4.

Solution

Concept – Light's criteria: An effusion is an exudate if any one criterion is met.

Step 1 – state the criteria: Fluid is an exudate if the **pleural to serum protein ratio is above 0.5**, or the pleural to serum LDH ratio is above 0.6, or the pleural LDH exceeds two-thirds of the upper limit of normal serum LDH.

Step 2 – read X: The marked exudate feature is a protein ratio greater than 0.5.

Why the other options are wrong:

- A, protein ratio below 0.5: a transudate feature.
- B, LDH ratio below 0.6: a transudate feature.
- C, low pleural LDH: a transudate feature; exudates have high LDH.

Final Answer: Protein ratio greater than 0.5 $\Rightarrow$ D



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

Q5.

Solution

Concept – transudate versus exudate: Transudates arise from altered hydrostatic or oncotic pressure.

Step 1 – match the cause: Congestive cardiac failure raises pulmonary capillary hydrostatic pressure and produces a protein-poor transudate.

Step 2 – confirm: The fluid meets none of Light's exudate criteria.

Why the other options are wrong:

- A, malignancy: an exudate from increased capillary permeability and impaired lymphatic drainage.
- C, tuberculosis: a lymphocyte-rich exudate.
- D, parapneumonic effusion: an inflammatory exudate.

Final Answer: Congestive cardiac failure $\Rightarrow$ **B**

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

Q6.

Solution

Concept – West Haven grading: Grades run from subtle changes to coma.

Step 1 – place the patient: Somnolent but rousable, with gross disorientation and marked confusion, corresponds to **Grade III**.

Step 2 – anchor the scale: Grade I is trivial change, Grade II lethargy and mild disorientation, Grade IV frank coma.

Why the other options are wrong:

- A, Grade I: only minor changes in awareness.
- B, Grade II: lethargy or apathy with mild disorientation, still fairly interactive.
- D, Grade IV: unrousable coma.

Final Answer: Grade III $\Rightarrow$ **C**

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



Q7.

Solution

Concept – precipitants of encephalopathy: Look for an added nitrogen or metabolic insult.

Step 1 – pick the trigger: Gastrointestinal bleeding floods the gut with blood protein, raising ammonia production and precipitating encephalopathy.

Step 2 – management link: Control the bleed and reduce nitrogen load with lactulose and rifaximin.

Why the other options are wrong:

- A, hyperkalaemia: hypokalaemia (not hyperkalaemia) worsens encephalopathy.
- B, hypervolaemia: not a recognised primary precipitant.
- D, alkalosis with normal potassium: alkalosis contributes mainly alongside hypokalaemia, and is far less potent than GI bleeding.

Final Answer: Gastrointestinal bleeding $\Rightarrow$

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

Q8.

Solution

Concept – growth hormone axis: GH acts largely through a hepatic mediator.

Step 1 – identify X: Growth hormone stimulates the liver to secrete **IGF-1**, whose level integrates GH secretion over the day and is the best single screening test for acromegaly.

Step 2 – confirm: A raised IGF-1 is followed by an oral glucose tolerance test to confirm non-suppressible GH.

Why the other options are wrong:

- A, a single random GH: pulsatile and unreliable as a screen.
- B, ACTH: belongs to the adrenal axis.
- C, prolactin: a separate pituitary hormone, not the GH mediator.

Final Answer: IGF-1 $\Rightarrow$

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



Q9.

Solution

Concept – treating prolactinoma: Prolactinomas respond to dopamine, unlike most pituitary tumours.

Step 1 – choose first line: A **dopamine agonist such as cabergoline** lowers prolactin and shrinks the tumour, even for macroadenomas.

Step 2 – reasoning: Dopamine tonically inhibits lactotrophs, so agonists both control secretion and reduce tumour bulk.

Why the other options are wrong:

- A, surgery: reserved for drug intolerance, resistance, or acute compression.
- B, radiotherapy: a later adjunct for resistant tumours.
- D, somatostatin analogue: used for acromegaly, not prolactinoma.

Final Answer: Dopamine agonist (cabergoline) ⇒ C

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

Q10.

Solution

Concept – diabetes insipidus: Central and nephrogenic forms differ in the ADH problem.

Step 1 – define central DI: Central diabetes insipidus is a **deficiency of ADH**, so the kidney cannot concentrate urine and passes large volumes of dilute urine with a rising serum sodium.

Step 2 – confirm: It responds to desmopressin, unlike the nephrogenic form.

Why the other options are wrong:

- A, concentrated urine: the opposite of DI, where urine is dilute.
- C, renal resistance to ADH: describes nephrogenic DI.
- D, hyponatraemia with concentrated urine: describes SIADH.

Final Answer: ADH deficiency with dilute urine ⇒ B

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



Q11.

Solution

Concept – clinical multiple sclerosis: Central demyelination scatters lesions in space and time.

Step 1 – pick the feature: Internuclear ophthalmoplegia, from a lesion of the medial longitudinal fasciculus, is a classic sign, especially when bilateral in a young adult.

Step 2 – add context: Optic neuritis, sensory symptoms and Lhermitte's phenomenon are other typical presentations.

Why the other options are wrong:

- B, resting tremor: a feature of Parkinson's disease.
- C, ascending flaccid paralysis: describes Guillain-Barre syndrome.
- D, festinant gait with cogwheel rigidity: parkinsonism, not MS.

Final Answer: Internuclear ophthalmoplegia ⇒ A

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

Q12.

Solution

Concept – CSF in demyelination: Intrathecal immunoglobulin synthesis is the clue.

Step 1 – name the finding: Oligoclonal IgG bands present in the CSF but not the paired serum indicate intrathecal antibody production and support MS.

Step 2 – combine: CSF bands with MRI lesions disseminated in space and time secure the diagnosis.

Why the other options are wrong:

- A, low CSF glucose: suggests bacterial or tuberculous meningitis.
- C, albuminocytologic dissociation: characteristic of Guillain-Barre syndrome.
- D, neutrophilic pleocytosis: points to acute bacterial meningitis.

Final Answer: Oligoclonal IgG bands ⇒ B

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



Q13.

Solution

Concept – qSOFA: A three-item bedside screen flags sepsis risk.

Step 1 – list the criteria: qSOFA scores one point each for **respiratory rate 22 or more**, **altered mentation (GCS below 15)**, and **systolic BP 100 mmHg or less**.

Step 2 – apply: A score of 2 or more marks a higher risk of poor outcome and prompts escalation.

Why the other options are wrong:

- A, temperature, heart rate, white cell count: these belong to the older SIRS criteria.
- B, lactate, procalcitonin, CRP: laboratory markers, not the bedside qSOFA items.
- D, CVP, urine output, mixed venous saturation: monitoring targets, not qSOFA.

Final Answer: RR 22 or more, altered mentation, SBP 100 or less $\Rightarrow$ **C**

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

Q14.

Solution

Concept – defining septic shock: Sepsis-3 combines a vasopressor need with lactate.

Step 1 – state the threshold: Septic shock requires vasopressors to maintain a mean arterial pressure of 65 or above plus a serum lactate **above 2 mmol/L** despite adequate fluids.

Step 2 – interpret: The raised lactate reflects tissue hypoperfusion and anaerobic metabolism.

Why the other options are wrong:

- B, 0.5 mmol/L: within the normal range.
- C, 8 mmol/L: severe, but far above the defining cut-off.
- D, 12 mmol/L: an extreme value, not the threshold used for the definition.

Final Answer: Above 2 mmol/L $\Rightarrow$ **A**

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



Q15.

Solution

Concept – hour-1 sepsis bundle: Early, bundled action improves survival.

Step 1 – list the steps: Measure lactate, draw blood cultures before antibiotics, give broad-spectrum antibiotics, and start crystalloid resuscitation (30 mL/kg for hypotension or lactate 4 or more), adding vasopressors if hypotension persists.

Step 2 – rationale: Cultures before antibiotics preserve yield, while early antibiotics and fluids reverse hypoperfusion.

Why the other options are wrong:

- A, withholding antibiotics: delay increases mortality.
- B, restricting fluids: initial resuscitation needs adequate crystalloid.
- C, vasopressors first while deferring lactate: lactate guides resuscitation and is measured up front.

Final Answer: Lactate, cultures, antibiotics, and fluids ⇒ D

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



Answer Key

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

