

INI CET Paediatrics

Sample Paper – 8

Duration: 14 Minutes

Maximum Marks: 15

Instructions

- This paper contains **15** Multiple Choice Questions (Single Best Response), modelled on the Paediatrics content of **INI CET** (Institutes of National Importance Combined Entrance Test) conducted by AI-IMS New Delhi.
- The **15-question** length matches the number of Paediatrics 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.

Neonatology

Q1. During neonatal resuscitation the 'golden minute' is the first 60 seconds in which the initial steps and, if needed, ventilation must begin. For a non-vigorous newborn the correct order of the *initial* steps immediately after birth is:

- (A) Start chest compressions, then dry and stimulate
- (B) Give adrenaline, then position the airway
- (C) Provide warmth, position and clear the airway, dry, then stimulate
- (D) Intubate first, then provide warmth

Q2. A preterm infant has recurrent episodes of apnoea with bradycardia and



desaturation, with no infective or metabolic cause found. The drug of choice for apnoea of prematurity is:

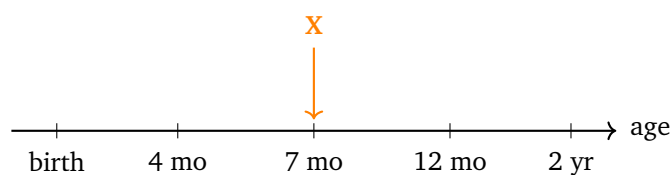
- (A) Surfactant
- (B) Dexamethasone
- (C) Caffeine citrate
- (D) Indomethacin

Q3. Newborn screening for congenital hypothyroidism, undertaken to start early treatment and prevent cretinism, relies chiefly on measuring which of the following, an elevation of which is the key abnormal result?

- (A) Serum total T3
- (B) Thyroid-stimulating hormone (TSH)
- (C) Serum calcium
- (D) Serum cortisol

Growth, Development and Nutrition

Q4. On the eruption timeline below, the arrow X marks the age at which the *first* primary (milk) tooth normally erupts, and this first tooth is the:



- (A) About 6 to 8 months – the lower central incisor
- (B) About 2 months – the upper canine
- (C) About 18 months – the first molar
- (D) About 3 years – the second molar

Q5. In normal language development, non-specific bisyllabic babble such as 'mama/dada' begins around 8 to 9 months. At what age does a normal infant typically speak the *first meaningful word* (used with meaning)?



- (A) About 6 months
- (B) About 12 months (1 year)
- (C) About 18 months
- (D) About 24 months

Q6. The Denver Developmental Screening Test (DDST) is used mainly to:

- (A) Screen for developmental delay across gross motor, fine motor, language and personal-social domains in children up to 6 years
- (B) Measure the intelligence quotient (IQ) of a school-age child
- (C) Confirm a diagnosis of cerebral palsy
- (D) Assess hearing thresholds in a newborn

Immunisation and Infectious Disease

Q7. Most vaccines held in the cold chain at the health-centre ice-lined refrigerator (ILR) level are stored at a temperature of:

- (A) Minus 20 degrees C
- (B) 8 to 15 degrees C
- (C) 2 to 8 degrees C
- (D) 15 to 25 degrees C

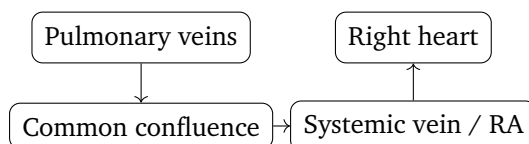
Q8. In the polio eradication programme, surveillance requires that every child under 15 years with acute flaccid paralysis (AFP) has two stool specimens collected. The main purpose of this is to:

- (A) Measure oral polio vaccine coverage in the district
- (B) Diagnose Guillain-Barre syndrome
- (C) Detect and confirm circulating poliovirus (wild or vaccine-derived)
- (D) Screen for muscular dystrophy

Respiratory and Cardiovascular Paediatrics



Q9. The schematic shows the pulmonary veins draining, through a common confluence, into the systemic venous side instead of the left atrium. A cyanotic newborn with this anatomy shows a 'figure-of-8' or 'snowman' cardiac silhouette on chest X-ray. The diagnosis is:



- (A) Total anomalous pulmonary venous connection (TAPVC)
 - (B) Tetralogy of Fallot
 - (C) Transposition of the great arteries
 - (D) Truncus arteriosus
- Q10.** In whooping cough (pertussis), the phase marked by bouts of severe coughing ending in an inspiratory 'whoop', often followed by vomiting, is the:
- (A) Catarrhal phase
 - (B) Convalescent phase
 - (C) Incubation phase
 - (D) Paroxysmal (spasmodic) phase
- Q11.** A 3-month-old infant presents with a narrow-complex tachycardia at 260 beats per minute and is haemodynamically stable. The correct first-line management is:
- (A) Immediate synchronised DC cardioversion
 - (B) Vagal manoeuvre (ice to the face); intravenous adenosine if it fails
 - (C) Intravenous verapamil
 - (D) Slow digoxin loading over 24 hours

Haematology, Genetics and Systemic Disease

Q12. The single commonest malignancy of childhood is:



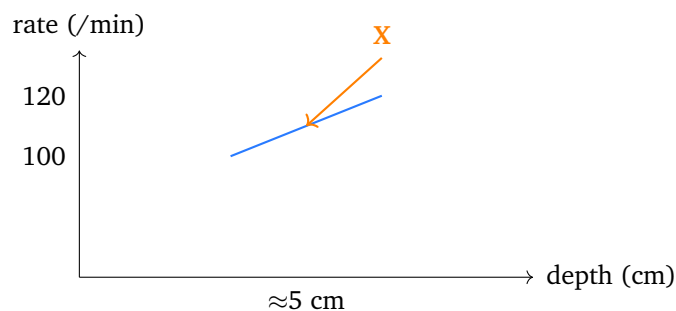
- (A) Wilms tumour
- (B) Neuroblastoma
- (C) Retinoblastoma
- (D) Acute lymphoblastic leukaemia

Q13. A newborn presents with ambiguous genitalia and, in the second week of life, develops salt wasting with hyponatraemia, hyperkalaemia and skin hyperpigmentation. The most likely diagnosis is:

- (A) Androgen insensitivity syndrome
- (B) Congenital adrenal hyperplasia due to 21-hydroxylase deficiency
- (C) Turner syndrome
- (D) Congenital hypothyroidism

Emergency, Fluids and Electrolytes

Q14. The scale below plots chest-compression rate against depth for paediatric CPR. During CPR of a child the arrow X marks the recommended combination, namely a depth of about one-third of the chest and a rate of:



- (A) About 5 cm (one-third of chest depth) at 100 to 120 compressions per minute
- (B) About 2 cm at 60 to 80 compressions per minute
- (C) About 8 cm at 140 to 160 compressions per minute
- (D) About 1 cm at 40 to 60 compressions per minute



- Q15.** A conscious 4-year-old suddenly chokes on a piece of food, cannot speak or cough effectively and is becoming cyanosed. The recommended sequence to relieve the airway obstruction is:
- (A) A blind finger sweep of the mouth
 - (B) Immediate cricothyroidotomy
 - (C) Give the child water to sip
 - (D) Alternate 5 back blows with 5 abdominal thrusts (Heimlich manoeuvre)



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

Concept – the ‘golden minute’ of neonatal resuscitation: The first 60 seconds after birth are used to complete the initial steps and, if the baby is not breathing, to begin ventilation.

Step 1 – recall the initial steps: For a non-vigorous newborn the sequence is provide warmth, position the head and clear the airway if needed, dry the baby, and stimulate.

Step 2 – what follows: Only if the baby remains apnoeic or gasping, or the heart rate is below 100, do you start positive-pressure ventilation; chest compressions come later still if the heart rate stays below 60.

Why the other options are wrong:

- A, compressions first: compressions are never the first step and are reserved for a heart rate below 60 despite ventilation.
- B, adrenaline first: adrenaline is a late step, only after effective ventilation and compressions fail.
- D, intubate first: routine intubation is not part of the initial steps.

Final Answer: Warmth, position and clear airway, dry, stimulate ⇒ C

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

Q2.**Solution**

Concept – apnoea of prematurity: Immature central respiratory drive in preterm babies causes recurrent apnoea, bradycardia and desaturation once sepsis and metabolic causes are excluded.

Step 1 – name the drug: **Caffeine citrate**, a methylxanthine, is the treatment of choice; it stimulates the respiratory centre and reduces apnoeic spells.

Step 2 – added benefits: Caffeine also shortens the duration of mechanical ventilation and is associated with a lower rate of bronchopulmonary dysplasia.

Why the other options are wrong:

- A, surfactant: treats respiratory distress syndrome, not apnoea of prematurity.



- B, dexamethasone: used for chronic lung disease, not as first-line for apnoea.
- D, indomethacin: closes a patent ductus arteriosus; it does not treat apnoea.

Final Answer: Caffeine citrate $\Rightarrow$

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

Q3.

Solution

Concept – newborn screening for congenital hypothyroidism: Early detection prevents the irreversible intellectual disability of cretinism, so screening must be simple and sensitive.

Step 1 – identify the marker: Screening chiefly measures **thyroid-stimulating hormone (TSH)**; a raised TSH signals primary hypothyroidism and triggers confirmatory testing and thyroxine replacement.

Step 2 – the timing: The heel-prick sample is taken after the first 48 to 72 hours to avoid the physiological neonatal TSH surge that occurs right after birth.

Why the other options are wrong:

- A, total T3: an insensitive first-line screen and often normal early in hypothyroidism.
- C, serum calcium: used to screen for hypocalcaemia, not thyroid disease.
- D, serum cortisol: relevant to adrenal disorders, not congenital hypothyroidism.

Final Answer: A raised TSH $\Rightarrow$

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

Q4.

Solution

Concept – eruption of the primary dentition: Milk teeth erupt in a predictable order, and the first tooth is a reliable landmark.

Step 1 – read the timeline: The arrow X points to the 7-month mark on the age axis.

Step 2 – name the tooth: The first primary tooth erupts at about **6 to 8 months** and is the **lower (mandibular) central incisor**.



Why the other options are wrong:

- B, 2 months / upper canine: far too early, and canines erupt much later.
- C, 18 months / first molar: molars erupt after the incisors, not first.
- D, 3 years / second molar: the second molars are the last primary teeth to erupt.

Final Answer: About 6 to 8 months, the lower central incisor ⇒ A

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

Q5.

Solution

Concept – early language milestones: Speech develops from cooing to babble to the first meaningful word along a set timetable.

Step 1 – place the milestone: Non-specific bisyllabic babble ('mama/dada') appears around 8 to 9 months; the first **meaningful** word is normally spoken at about **12 months** (1 year).

Step 2 – what comes next: By 18 months the toddler typically has around 10 words and points to body parts, and by 2 years joins two words together.

Why the other options are wrong:

- A, 6 months: this is the age of monosyllabic babble and cooing, not real words.
- C, 18 months: a meaningful first word by this age would already be delayed.
- D, 24 months: at this age the child normally makes two-word phrases, well beyond the first word.

Final Answer: About 12 months ⇒ B

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

Q6.

Solution

Concept – purpose of the Denver Developmental Screening Test: The DDST is a screening, not a diagnostic, tool.

Step 1 – state its use: It **screens for developmental delay** across four domains – gross motor, fine motor, language and personal-social – in children from birth up



to about 6 years.

Step 2 – the follow-up: A child who fails the screen is referred for formal diagnostic assessment; the DDST itself does not label a diagnosis.

Why the other options are wrong:

- B, measure IQ: the DDST is not an intelligence test and gives no IQ score.
- C, confirm cerebral palsy: it flags delay but cannot confirm a specific diagnosis.
- D, assess newborn hearing: hearing is screened by otoacoustic emissions or BERA, not the DDST.

Final Answer: Screens for developmental delay across four domains ⇒ **A**

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

Q7.

Solution

Concept – cold-chain storage temperature: Vaccines lose potency if not kept within a narrow temperature range from manufacture to use.

Step 1 – recall the value: At the health-centre ice-lined refrigerator (ILR) level, most vaccines are stored at **2 to 8 degrees C**.

Step 2 – the exceptions: The deep freezer at minus 20 degrees C is used only for holding the OPV and measles stock at higher storage levels; freeze-sensitive vaccines such as DPT and hepatitis B must never be frozen.

Why the other options are wrong:

- A, minus 20 degrees C: this is the deep-freezer temperature, not the routine ILR storage.
- B, 8 to 15 degrees C: too warm; potency would be lost.
- D, 15 to 25 degrees C: room temperature, unsafe for vaccine storage.

Final Answer: 2 to 8 degrees C ⇒ **C**

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



Q8.

Solution

Concept – acute flaccid paralysis (AFP) surveillance: Polio eradication depends on catching every possible case of paralytic poliomyelitis.

Step 1 – state the purpose: Every child under 15 years with AFP has two stool specimens collected so the laboratory can **detect and confirm poliovirus** (wild or vaccine-derived) in the community.

Step 2 – why stool: Poliovirus is shed in the stool, so virus isolation from two adequate samples, taken 24 hours apart within 14 days of onset, is the gold standard for confirming or excluding polio.

Why the other options are wrong:

- A, vaccine coverage: coverage is measured by immunisation records, not stool testing.
- B, Guillain-Barre syndrome: an AFP mimic that is excluded, not the aim of stool testing.
- D, muscular dystrophy: a chronic weakness, unrelated to AFP stool surveillance.

Final Answer: Detect and confirm circulating poliovirus ⇒ C

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

Q9.

Solution

Concept – total anomalous pulmonary venous connection (TAPVC): When all four pulmonary veins drain to the systemic venous side, oxygenated and deoxygenated blood mix, producing cyanosis.

Step 1 – read the schematic: The pulmonary veins pass through a common confluence into a systemic vein and the right heart, exactly the anatomy of **TAPVC**.

Step 2 – the X-ray clue: The supracardiac form gives the classic ‘snowman’ or ‘figure-of-8’ cardiac silhouette, and a right-to-left shunt through an atrial communication keeps the infant alive.

Why the other options are wrong:

- B, Tetralogy of Fallot: gives a boot-shaped heart, not a snowman.
- C, transposition of the great arteries: gives an ‘egg-on-a-string’ silhouette.



- D, truncus arteriosus: a single trunk overrides the ventricles; it does not give a snowman shape.

Final Answer: Total anomalous pulmonary venous connection $\Rightarrow$ A

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

Q10.

Solution

Concept – clinical phases of whooping cough: Pertussis runs through catarrhal, paroxysmal and convalescent phases.

Step 1 – match the description: Bouts of severe coughing that end in an inspiratory ‘whoop’, often with post-tussive vomiting, define the **paroxysmal (spasmodic) phase**.

Step 2 – the timing: This phase usually lasts 2 to 6 weeks and is when the diagnosis is most obvious clinically, though the child is most infectious during the earlier catarrhal phase.

Why the other options are wrong:

- A, catarrhal phase: resembles a common cold with runny nose and mild cough, no whoop.
- B, convalescent phase: the cough gradually settles over weeks.
- C, incubation phase: the asymptomatic interval before any symptoms appear.

Final Answer: Paroxysmal (spasmodic) phase $\Rightarrow$ D

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

Q11.

Solution

Concept – supraventricular tachycardia (SVT) in an infant: A narrow-complex tachycardia around 220 to 300 per minute in a stable infant is managed in a stepwise way.

Step 1 – start with a vagal manoeuvre: In a haemodynamically stable infant the first step is a **vagal manoeuvre** (ice or a bag of iced water applied briefly to the face); if it fails, give rapid intravenous **adenosine**.

Step 2 – when to shock: Synchronised DC cardioversion is reserved for the unstable child with shock, poor perfusion or heart failure, not for a stable infant.



Why the other options are wrong:

- A, immediate cardioversion: over-treatment for a stable infant; used only if unstable.
- C, verapamil: contraindicated in infants because of the risk of profound hypotension and arrest.
- D, digoxin loading: too slow for acute termination of SVT.

Final Answer: Vagal manoeuvre, then adenosine ⇒ **B**

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

Q12.

Solution

Concept – commonest childhood malignancy: Leukaemias make up the largest share of paediatric cancers.

Step 1 – name it: **Acute lymphoblastic leukaemia (ALL)** is the single commonest malignancy of childhood, with a peak incidence between 2 and 5 years.

Step 2 – the presentation: It presents with pallor, fever, bleeding, bone pain and hepatosplenomegaly from marrow infiltration, and carries a good prognosis with modern chemotherapy.

Why the other options are wrong:

- A, Wilms tumour: the commonest renal tumour of childhood, but far less common than ALL overall.
- B, neuroblastoma: the commonest extracranial solid tumour of infancy, still less common than ALL.
- C, retinoblastoma: the commonest intraocular tumour, but rare compared with ALL.

Final Answer: Acute lymphoblastic leukaemia ⇒ **D**

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



Q13.

Solution

Concept – congenital adrenal hyperplasia (CAH): The commonest cause is 21-hydroxylase deficiency, which blocks cortisol and aldosterone synthesis and shunts precursors into androgens.

Step 1 – read the clues: Ambiguous genitalia in a virilised female newborn, with second-week salt wasting (hyponatraemia, hyperkalaemia) and hyperpigmentation, is classic for **CAH due to 21-hydroxylase deficiency**.

Step 2 – the mechanism: Low cortisol drives up ACTH (causing the hyperpigmentation) while low aldosterone causes the salt-wasting crisis; excess androgens virilise the external genitalia.

Why the other options are wrong:

- A, androgen insensitivity: gives a female phenotype in a genetic male, without salt wasting.
- C, Turner syndrome: presents with lymphoedema and short stature, not ambiguous genitalia with salt wasting.
- D, congenital hypothyroidism: causes lethargy and prolonged jaundice, not virilisation or salt wasting.

Final Answer: CAH due to 21-hydroxylase deficiency ⇒ **B**

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

Q14.

Solution

Concept – chest-compression depth and rate for a child: Effective compressions must be deep enough and fast enough to maintain circulation.

Step 1 – read the scale: The arrow X sits at a depth of about 5 cm and a rate between the 100 and 120 lines.

Step 2 – state the standard: For a child, compress the chest to about **one-third of its depth (roughly 5 cm)** at a rate of **100 to 120 compressions per minute**, allowing full recoil between compressions.

Why the other options are wrong:

- B, 2 cm at 60 to 80: too shallow and too slow to generate adequate output.
- C, 8 cm at 140 to 160: too deep, risking injury, and too fast for full recoil.
- D, 1 cm at 40 to 60: grossly inadequate compressions.



Final Answer: About 5 cm at 100 to 120 per minute ⇒ **A**

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

Q15.

Solution

Concept – relief of foreign-body airway obstruction in a conscious child: A conscious child over one year with a complete obstruction needs prompt physical manoeuvres.

Step 1 – the correct sequence: Deliver **5 back blows** between the shoulder blades; if the object is not cleared, follow with **5 abdominal thrusts** (the Heimlich manoeuvre), and keep alternating.

Step 2 – continue until relief or collapse: Repeat the cycle while the child is conscious; if the child becomes unresponsive, start CPR.

Why the other options are wrong:

- A, blind finger sweep: can push the object deeper and is not recommended.
- B, cricothyroidotomy: a last-resort surgical airway, not the first response in a conscious child.
- C, give water: useless and risks worsening the obstruction or aspiration.

Final Answer: 5 back blows alternating with 5 abdominal thrusts ⇒ **D**

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



Answer Key

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

