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MPA-25

प्रश्न-पुस्तिका संख्या व बारकोड /  
Question Booklet No. & Barcode

इस प्रश्न-पुस्तिका को तब तक न खोलें जब तक  
कहा न जाए। Do not open this Question  
Booklet until you are asked to do so.

पुस्तिका में पृष्ठों की संख्या : 24  
Number of Pages in Booklet : 24  
पुस्तिका में प्रश्नों की संख्या : 150  
No. of Questions in Booklet : 150



Paper Code : 71

Sub : Neonatology

समय : 02:30 घण्टे + 10 मिनट अतिरिक्त\*  
Time : 02:30 Hours + 10 Minutes Extra\*

Examination Date 07/04/2024

अधिकतम अंक : 150

Maximum Marks : 150

प्रश्न-पुस्तिका के पेपर की सील/पॉलिथीन बैग को खोलने पर प्रश्न-पत्र हल करने से पूर्व परीक्षार्थी यह सुनिश्चित कर लें कि :

- प्रश्न-पुस्तिका संख्या तथा ओ.एम.आर. उत्तर-पत्रक पर अंकित बारकोड संख्या समान हैं।
- प्रश्न-पुस्तिका एवं ओ.एम.आर. उत्तर-पत्रक के सभी पृष्ठ व सभी प्रश्न सही मुद्रित हैं। समस्त प्रश्न, जैसा कि ऊपर वर्णित है, उपलब्ध हैं तथा कोई भी पृष्ठ कम नहीं है / मुद्रण त्रुटि नहीं है। किसी भी प्रकार की विसंगति या दोषपूर्ण होने पर परीक्षार्थी वीक्षक से दूसरा प्रश्न-पत्र प्राप्त कर लें। यह सुनिश्चित करने की जिम्मेदारी अभ्यर्थी की होगी। परीक्षा प्रारम्भ होने के 5 मिनट पश्चात् ऐसे किसी दावे/आपत्ति पर कोई विचार नहीं किया जायेगा।

On opening the paper seal/polythene bag of the Question Booklet before attempting the question paper, the candidate should ensure that :

- Question Booklet Number and Barcode Number of OMR Answer Sheet are same.
- All pages & Questions of Question Booklet and OMR Answer Sheet are properly printed. All questions as mentioned above are available and no page is missing/misprinted.

If there is any discrepancy/defect, candidate must obtain another Question Booklet from Invigilator. Candidate himself shall be responsible for ensuring this. No claim/objection in this regard will be entertained after five minutes of start of examination.

### परीक्षार्थियों के लिए निर्देश

1. प्रत्येक प्रश्न के लिये एक विकल्प भरना अनिवार्य है।
2. सभी प्रश्नों के अंक समान हैं।
3. प्रत्येक प्रश्न का मात्र एक ही उत्तर दीजिए। एक से अधिक उत्तर देने की दशा में प्रश्न के उत्तर को गलत माना जाएगा।
4. OMR उत्तर-पत्रक इस प्रश्न-पुस्तिका के अन्दर रखा है। जब आपको प्रश्न-पुस्तिका खोलने को कहा जाए, तो उत्तर-पत्रक निकाल कर ध्यान से केवल नीले बॉल पॉइंट पेन से विवरण भरें।
5. कृपया अपना रोल नम्बर ओ.एम.आर. उत्तर-पत्रक पर सावधानीपूर्वक सही भरें। गलत रोल नम्बर भरने पर परीक्षार्थी स्वयं उत्तरदायी होगा।
6. ओ.एम.आर. उत्तर-पत्रक में करेक्शन पेन/व्हाइटनर/सफेदा का उपयोग निषिद्ध है।
7. प्रत्येक गलत उत्तर के लिए प्रश्न अंक का 1/3 भाग काटा जायेगा। गलत उत्तर से तात्पर्य अशुद्ध उत्तर अथवा किसी भी प्रश्न के एक से अधिक उत्तर से है।
8. प्रत्येक प्रश्न के पाँच विकल्प दिये गये हैं, जिन्हें क्रमशः 1, 2, 3, 4, 5 अंकित किया गया है। अभ्यर्थी को सही उत्तर निर्दिष्ट करते हुए उनमें से केवल एक गोले (बबल) को उत्तर-पत्रक पर नीले बॉल पॉइंट पेन से गहरा करना है।
9. यदि आप प्रश्न का उत्तर नहीं देना चाहते हैं तो उत्तर-पत्रक में पाँचवें (5) विकल्प को गहरा करें। यदि पाँच में से कोई भी गोला गहरा नहीं किया जाता है, तो ऐसे प्रश्न के लिये प्रश्न अंक का 1/3 भाग काटा जायेगा।
10. \* प्रश्न-पत्र हल करने के उपरांत अभ्यर्थी अनिवार्य रूप से ओ.एम.आर. उत्तर-पत्रक जाँच लें कि समस्त प्रश्नों के लिये एक विकल्प (गोला) भर दिया गया है। इसके लिये ही निर्धारित समय से 10 मिनट का अतिरिक्त समय दिया गया है।
11. यदि अभ्यर्थी 10% से अधिक प्रश्नों में पाँच विकल्पों में से कोई भी विकल्प अंकित नहीं करता है तो उसको अयोग्य माना जायेगा।
12. मोबाइल फोन अथवा अन्य किसी इलेक्ट्रॉनिक यंत्र का परीक्षा हॉल में प्रयोग पूर्णतया वर्जित है। यदि किसी अभ्यर्थी के पास ऐसी कोई वर्जित सामग्री मिलती है तो उसके विरुद्ध आयोग द्वारा नियमानुसार कार्यवाही की जायेगी।

चेतावनी : अगर कोई अभ्यर्थी नकल करते पकड़ा जाता है या उसके पास से कोई अनधिकृत सामग्री पाई जाती है, तो उस अभ्यर्थी के विरुद्ध पुलिस में प्राथमिकी दर्ज कराते हुए राजस्थान सार्वजनिक परीक्षा (भर्ती में अनुचित साधनों की रोकथाम अध्यापय) अधिनियम, 2022 तथा अन्य प्रभावी कानून एवं आयोग के नियमों-प्रावधानों के तहत कार्यवाही की जाएगी। साथ ही आयोग ऐसे अभ्यर्थी को भविष्य में होने वाली आयोग की समस्त परीक्षाओं से विवर्जित कर सकता है।

### INSTRUCTIONS FOR CANDIDATES

1. It is mandatory to fill one option for each question.
2. All questions carry equal marks.
3. Only one answer is to be given for each question. If more than one answers are marked, it would be treated as wrong answer.
4. The OMR Answer Sheet is inside this Question Booklet. When you are directed to open the Question Booklet, take out the Answer Sheet and fill in the particulars carefully with Blue Ball Point Pen only.
5. Please correctly fill your Roll Number in OMR Answer Sheet. Candidates will themselves be responsible for filling wrong Roll No.
6. Use of Correction Pen/Whitener in the OMR Answer Sheet is strictly forbidden.
7. 1/3 part of the mark(s) of each question will be deducted for each wrong answer. A wrong answer means an incorrect answer or more than one answers for any question.
8. Each question has five options marked as 1, 2, 3, 4, 5. You have to darken only one circle (bubble) indicating the correct answer on the Answer Sheet using BLUE BALL POINT PEN.
9. If you are not attempting a question then you have to darken the circle '5'. If none of the five circles is darkened, one third (1/3) part of the marks of question shall be deducted.
10. \* After solving question paper, candidate must ascertain that he/she has darkened one of the circles (bubbles) for each of the questions. Extra time of 10 minutes beyond scheduled time, is provided for this.
11. A candidate who has not darkened any of the five circles in more than 10% questions shall be disqualified.
12. Mobile Phone or any other electronic gadget in the examination hall is strictly prohibited. A candidate found with any of such objectionable material with him/her will be strictly dealt with as per rules.

Warning : If a candidate is found copying or if any unauthorized material is found in his/her possession, F.I.R. would be lodged against him/her in the Police Station and he/she would be liable to be prosecuted under Rajasthan Public Examination (Measures for Prevention of Unfair means in Recruitment) Act, 2022 & any other laws applicable and Commission's Rules-Regulations. Commission may also debar him/her permanently from all future examinations.

उत्तर-पत्रक में दो प्रतियाँ हैं - मूल प्रति और कार्बन प्रति। परीक्षा समाप्ति पर परीक्षा कक्ष छोड़ने से पूर्व परीक्षार्थी उत्तर-पत्रक की दोनों प्रतियाँ वीक्षक को सौंपेंगे, परीक्षार्थी स्वयं कार्बन प्रति अलग नहीं करें। वीक्षक उत्तर-पत्रक की मूल प्रति को अपने पास जमा कर, कार्बन प्रति को मूल प्रति से कट लाइन से मोड़ कर सावधानीपूर्वक अलग कर परीक्षार्थी को सौंपेंगे, जिसे परीक्षार्थी अपने साथ ले जायेंगे। परीक्षार्थी को उत्तर-पत्रक की कार्बन प्रति चयन प्रक्रिया पूर्ण होने तक सुरक्षित रखनी होगी एवं आयोग द्वारा माँगे जाने पर प्रस्तुत करनी होगी।



1. A preterm 28 weeks newborn requires resuscitation for persistent bradycardia (HR 70 bpm) despite 30 seconds of effective PPV. The team prepares for intubation. Which of the following represents the most appropriate sequence of actions?

- (1) Insert laryngoscope → administer surfactant → confirm tube position with chest X-ray → begin PPV
- (2) Measure nasal-tragus length → intubate within 30 seconds → confirm CO<sub>2</sub> detection → auscultate breath sounds
- (3) Attempt laryngeal mask first → wait for HR to stabilize → intubate if no improvement after 2 minutes
- (4) Continue mask PPV until HR > 100 bpm → then electively intubate for surfactant administration
- (5) Question not attempted

2. A newborn with prenatally diagnosed Congenital Diaphragmatic Hernia (CDH) requires resuscitation at birth. Which of the following represents the most appropriate modification to standard neonatal resuscitation guidelines?

- (1) Administer high-pressure positive-pressure ventilation (PPV) to fully expand the hypoplastic lungs.
- (2) Delay intubation until after chest compressions if bradycardia develops.
- (3) Begin CPAP via face mask to stabilize lung function.
- (4) Immediately intubate and use "gentle ventilation" with lower pressures and tidal volumes.
- (5) Question not attempted

3. A term newborn is apneic at birth with a heart rate of 80 bpm. After drying and tactile stimulation, the baby remains apneic. Which of the following best explains the underlying physiology and appropriate next step?

- (1) Primary apnea from transient hypoxia → Continue stimulation until breathing begins
- (2) Secondary apnea from profound acidosis → Initiate positive-pressure ventilation immediately
- (3) Medication-induced apnea → Administer naloxone while monitoring
- (4) Normal transitional apnea → Observe for spontaneous breathing onset
- (5) Question not attempted

4. Which of the following is classified as a very high-risk factor for requiring mask ventilation or intubation in neonates?

- (1) Preterm delivery at 35 weeks' gestational age
- (2) Birth weight of 2.2 kg
- (3) Preterm delivery at 32 weeks' gestational age
- (4) Gestational diabetes
- (5) Question not attempted



5. What ethical principle supports allowing parental autonomy in decision-making for periviable infants at 23-24 weeks ?
- (1) Justice
  - (2) Beneficence
  - (3) Respect for autonomy
  - (4) Non-maleficence
  - (5) Question not attempted
6. Arrange the following causes of still birth from most common to least common in low-income countries :
- A. Infection
  - B. Unexplained
  - C. Antepartum haemorrhage
  - D. Hypoxic peripartum death
- Options :**
- (1)  $B > A > D > C$
  - (2)  $B > D > A > C$
  - (3)  $A > B > C > D$
  - (4)  $D > B > A > C$
  - (5) Question not attempted
7. Which one of the following statement is correct regarding use of epinephrine in neonatal resuscitation ?
- (1) To be used if heart rate  $< 60$  / minute after 120 seconds of effective ventilation.
  - (2) Dose is  $0.1 - 0.3$  ml/kg of  $1 : 1000$  solution.
  - (3) Preferred route is not endotracheal.
  - (4) Atropine is an alternate choice in severe bradycardia.
  - (5) Question not attempted
8. Which of the following statement is false in Assist Control (AC) / SIPPV mode ?
- (1) AC is a time cycled mode.
  - (2) Ventilator provides a minimum backup rate in apnea.
  - (3) Reduction of rate should be primary weaning strategy.
  - (4) All spontaneous breaths are supported.
  - (5) Question not attempted
9. Change in which ventilator parameter is likely to have no impact on mean airway pressure ?
- (1) Peak inspiratory pressure
  - (2) Positive end expiratory pressure
  - (3) Respiratory rate
  - (4)  $FiO_2$
  - (5) Question not attempted
10. A neonate with increased airway resistance (e.g., due to meconium aspiration) will have
- (1) A shorter time constant and faster lung emptying.
  - (2) A longer time constant and slower lung emptying.
  - (3) No change in time constant but reduced compliance.
  - (4) Increased compliance and shorter time constant.
  - (5) Question not attempted



11. What is the primary mechanism by which supplemental oxygen improves hypoxemia in neonatal lung disease ?

- (1) Reversing atelectasis through direct alveolar expansion.
- (2) Reducing pulmonary vascular resistance via nitric oxide release.
- (3) Increasing the alveolar-arterial  $O_2$  gradient to enhance diffusion.
- (4) Stimulating surfactant production in type 2 alveolar cells.
- (5) Question not attempted

12. What do the white arrows in the following image of lung USG in a 5 day old newborn indicate ?



- (1) B-lines
- (2) A-lines
- (3) Pleural effusion
- (4) Consolidation
- (5) Question not attempted

13. Mechanism of action of methylxanthines is

- (1) Adenosine receptor agonist
- (2) Adenosine receptor antagonist
- (3) Phosphodiesterase-3 inhibitor
- (4) Phosphodiesterase-3 agonist
- (5) Question not attempted

14. Which of the following condition is the commonest indication of Neonatal ECMO ?

- (1) Congenital diaphragmatic hernia
- (2) Persistent pulmonary hypertension
- (3) Sepsis/pneumonia
- (4) Severe RDS
- (5) Question not attempted

15. Which of the following statement is true in relation to meconium stained amniotic fluid ?

- (1) Incidence are more in pre-term neonate.
- (2) Incidence are more in small for gestation age neonate.
- (3) Incidence are 1 – 2% in all delivery.
- (4) Incidence increases with decreasing gestational age.
- (5) Question not attempted

16. PI is a measure derived in modern pulse oximeter. It is an indicator for patient's circulatory status. PI stands for

- (1) Pulsatility Index
- (2) Plethysmographic Index
- (3) Perfusion Index
- (4) Pulse Variability Index
- (5) Question not attempted



17. **Assertion (A) :** Preterm infants are highly susceptible to systolic dysfunction during transition.

**Reason (R) :** The immature myocardium has excessive beta-adrenergic receptors, making it hyper-responsive to afterload changes.

**Options :**

- (1) Both (A) and (R) are true, and (R) is the correct explanation of (A).
- (2) Both (A) and (R) are true, but (R) is not the correct explanation of (A).
- (3) (A) is true, but (R) is false.
- (4) (A) is false, but (R) is true.
- (5) Question not attempted

18. Which of the following is the most common adverse effect of Prostaglandin E<sub>1</sub> infusion ?

- (1) Fever                      (2) Seizure
- (3) Hypertension            (4) Leucocytosis
- (5) Question not attempted

19. Which factors maintain high Pulmonary Vascular Resistance (PVR) in the fetus ?

- A. Hypoxic pulmonary vasoconstriction
- B. Increased Nitric Oxide (NO) production
- C. Mechanical compression by fluid-filled alveoli
- D. Elevated prostacyclin (Pgl<sub>2</sub>) levels
- E. Endothelin-1-mediated vasoconstriction

Select the correct answer using codes given below :

- (1) A, B & C            (2) A, C & D
- (3) B, D & E            (4) A, C & E
- (5) Question not attempted

20. A preterm neonate (26 weeks) with a large PDA develops hypotension and oliguria. Which sequence best explains the haemodynamic consequences ?

- (1) Left-to-right shunt → Decreased systemic diastolic pressure → Compensatory increased LV output → Redistribution of blood flow away from kidneys/GI tract
- (2) Right-to-left shunt → Pulmonary hypertension → RV failure → Systemic venous congestion
- (3) Increased pulmonary blood flow → Improved LV preload → Enhanced cerebral oxygenation → Autoregulation intact
- (4) Ductal steal → Coronary hypoperfusion → Myocardial ischemia → Reduced contractility
- (5) Question not attempted

21. A 22 days-old infant with Congenital Complete Atrioventricular Block (CCAVB) is asymptomatic but has a mean ventricular rate of 48 beats per minute on 24-hour Holter monitoring. According to current guidelines, what is the most appropriate management ?

- (1) Monitor with serial ECGs every 6 months
- (2) Implant a permanent pacemaker
- (3) Administer isoprenaline for intermittent bradycardia
- (4) Delay pacing until symptoms develop
- (5) Question not attempted



22. Which of the following is not a feature of low-lying umbilical artery catheters ?
- (1) Catheter tip below renal arteries
  - (2) Catheter tip above aortic bifurcation
  - (3) Catheter tip at L3 – L5
  - (4) Decreased risk of vascular complication
  - (5) Question not attempted
23. A neonate with PPHN and poor LV function (EF 35%) has worsening hypotension on iNO. Which regimen optimally addresses both pulmonary hypertension and cardiac output ?
- (1) Milrinone (0.2 µg/kg/min after load) + Vasopressin (0.002 units/kg/min)
  - (2) Prostacyclin (inhaled 20 ng/kg/min) + Bosentan (1 mg/kg q12h)
  - (3) Sildenafil (0.4 mg/kg IV load) + Dobutamine (10 µg/kg/min)
  - (4) iNO (20 ppm) + Epinephrine (0.1 µg/kg/min)
  - (5) Question not attempted
24. Least common type of TAPVC is
- (1) Supracardiac type
  - (2) Infracardiac type
  - (3) Cardiac type
  - (4) Mixed type
  - (5) Question not attempted
25. Most common cardiac defect associated with VACTERL
- (1) VSD
  - (2) ASD
  - (3) Tetralogy of fallot
  - (4) Double outlet ventricle
  - (5) Question not attempted
26. A 5-week old male infant presents with progressively worsening nonbilious vomiting. On examination, he has a palpable "olive" in the epigastrium and visible peristaltic waves. What is the most likely electrolyte abnormality ?
- (1) Hypochloremic metabolic alkalosis with hypokalemia
  - (2) Hyperchloremic metabolic acidosis with hypokalemia
  - (3) Hypochloremic metabolic alkalosis with hyponatremia
  - (4) Hyperkalemic metabolic acidosis with hyponatremia
  - (5) Question not attempted
27. A 6-week old baby presents with deep jaundice, acholic stools and high-coloured urine. Which is the least useful test ?
- (1) G6PD level
  - (2) Ultrasound abdomen
  - (3) Liver function test
  - (4) Stool examination with cutting of stool
  - (5) Question not attempted



28. Risk of kernicterus is not increased in

- (1) High serum albumin ( $> 3.0$  g/dl)
- (2) Isoimmune haemolytic disease
- (3) Sepsis
- (4) Gestational age  $< 38$  weeks
- (5) Question not attempted

29. Which one of the following is not a type of transient inclusion cyst found in newborns ?

- (1) Bohn nodules
- (2) Epstein pearls
- (3) Dental Lamina cyst
- (4) Congenital granular cell epulis
- (5) Question not attempted

30. A term neonate develops jaundice by day 3 of life. Which of the following best explains why newborns typically have higher bilirubin levels compared to adults ?

- (1) Increased intestinal conversion of urobilinogen to unconjugated bilirubin by gut bacteria.
- (2) Enhanced hepatic ligandin expression and UGT1A1 activity.
- (3) Combined effects of higher bilirubin production, reduced conjugation and enterohepatic circulation.
- (4) Decreased haemoglobin breakdown due to fetal RBC longevity.
- (5) Question not attempted

31. Which electrolyte abnormality leads to "meconium plug syndrome" in neonates ?

- (1) Potassium
- (2) Magnesium
- (3) Calcium
- (4) Selenium
- (5) Question not attempted

32. Which one is not a component in Bind Score ? (Bind-Bilirubin Induced Neurologic Dysfunction)

- (1) Eye movement
- (2) Mental state
- (3) Muscle tone
- (4) Cry
- (5) Question not attempted

33. Classic tetrad of kernicterus does not involve

- (1) Auditory impairment
- (2) Hypotonia
- (3) Dental enamel hypoplasia
- (4) Paralysis of upward gaze
- (5) Question not attempted

34. Which is the commonest site of intestine perforation in Spontaneous Intestine Perforation (SIP) in neonate ?

- (1) Terminal ileum
- (2) Second part of Duodenum
- (3) Descending colon
- (4) Appendix
- (5) Question not attempted



35. Which of the following is absolute contraindication of breastfeeding ?
- (1) Galactosemia
  - (2) Maternal tuberculosis
  - (3) Maternal Human immunodeficiency virus infection
  - (4) Maternal Hepatitis B virus infection
  - (5) Question not attempted
36. Regarding parenteral nutrition of newborns, 20% intralipid has the following advantages over 10% intralipid solution, except
- (1) Increase calorie density/ml of fluid
  - (2) Low phospholipid to triglyceride ratio
  - (3) Less risk of infection
  - (4) Better triglyceride clearance
  - (5) Question not attempted
37. False statement about Human Milk Oligosaccharides (HMO)
- (1) HMOs are complex sugar molecules.
  - (2) Colostrum HMO content is higher than mature milk.
  - (3) HMO promotes growth of bifidobacterium.
  - (4) 50% of HMOs are absorbed into systemic circulation.
  - (5) Question not attempted
38. How long the unpasteurized Donor Human Milk can be kept at room temperature ?
- (1) 6-8 hours
  - (2) 2-3 hours
  - (3) 24 hours
  - (4) Needs refrigeration immediately
  - (5) Question not attempted
39. What is a potential advantage of fish oil lipid emulsions like SMOF lipid over soyabean oil emulsions ?
- (1) Increased risk of cholestasis
  - (2) Reduced oxidative stress
  - (3) Higher linoleic acid content
  - (4) Decreased vitamin E levels
  - (5) Question not attempted
40. Which trace element is recommended to be included on day 1 of parenteral nutrition for preterm infants ?
- (1) Copper
  - (2) Selenium
  - (3) Zinc
  - (4) Manganese
  - (5) Question not attempted
41. Which fortification strategy uses BUN (9 – 16 mg/dL) to guide protein adjustments ?
- (1) Standard fortification
  - (2) Adjustable fortification
  - (3) Targeted fortification
  - (4) Modular fortification
  - (5) Question not attempted
42. Which of the following is not a feature of Lactational Management Unit (LMU) ?
- (1) Expression of milk
  - (2) Lactation support and counselling
  - (3) Mother counselling
  - (4) Milk donation and pasteurization
  - (5) Question not attempted



43. A preterm neonate born at 32 weeks gestation with Intrauterine Growth Restriction (IUGR) is being evaluated for fluid management in the NICU. Considering the developmental and clinical factors, which of the following statements best predicts the neonate's fluid balance trajectory and associated risks?
- (1) The neonate will exhibit greater initial weight loss due to a larger ECF compartment.
  - (2) The neonate will have a smaller initial weight loss and faster regain of birth weight due to reduced diuresis.
  - (3) The neonate will experience delayed diuresis due to a smaller ECF compartment.
  - (4) The neonate will show increased transepidermal water and solute loss due to IUGR, leading to a higher risk of hyponatremia.
  - (5) Question not attempted
44. A 26-week preterm infant (birth weight 800 g) develops a serum potassium of 6.6 mEq/L on postnatal day 2. The mother did not receive antenatal steroids. The infant is non-oliguric, and the ECG shows peaked T waves. Which management strategy best balances efficacy with safety in this population?
- (1) Calcium gluconate IV + insulin/dextrose infusion
  - (2) Sodium polystyrene sulfonate (Kayexalate) per rectum + furosemide IV
  - (3) Inhaled albuterol + sodium bicarbonate IV
  - (4) Watchful waiting with serial potassium monitoring
  - (5) Question not attempted
45. Which hereditary syndrome can manifest as renal cystic disease except
- (1) Tuberous sclerosis
  - (2) Von-Hippel-Lindau disease
  - (3) Oral-facial-digital syndrome type-I
  - (4) Aicardi-Goutieres syndrome
  - (5) Question not attempted
46. Maximum urine osmolarity achieved in preterm neonate
- (1) 600 mosm/kg
  - (2) 800 mosm/kg
  - (3) 1000 mosm/kg
  - (4) 1200 mosm/kg
  - (5) Question not attempted
47. At what age does the glomerular alteration rate of a term newborn reaches adult values?
- (1) 6 weeks
  - (2) 6 months
  - (3) 2 years
  - (4) 7 years
  - (5) Question not attempted
48. Quintero staging used for
- (1) Twin to twin transfusion syndrome
  - (2) Renal failure
  - (3) Still birth
  - (4) Renal tubular acidosis
  - (5) Question not attempted
49. An infant with polyuria, dehydration and metabolic alkalosis has hypokalemia ( $K^+$  2.5 mEq/L) and hypercalciuria. Which diagnosis is most consistent?
- (1) Gitelman syndrome
  - (2) Bartter syndrome
  - (3) Liddle syndrome
  - (4) Pseudohypoaldosteronism type I
  - (5) Question not attempted



50. Which of the following gene is not associated with congenital nephrotic syndrome ?

- (1) Wilms tumor gene
- (2) NPHS 2
- (3) LAMB 2
- (4) PKHD 1
- (5) Question not attempted

51. Which of the following is not associated with increased anion gap acidosis ?

- (1) Renal failure
- (2) Inborn error of metabolism
- (3) Lactic acidosis
- (4) Ileostomy & diarrhoea
- (5) Question not attempted

52. A 6 week old girl had feeding problems, hypotonia and emesis. Last week she developed an erythematous exfoliative generalized rash and partial alopecia. Laboratory data reveal metabolic acidosis, ketosis and hyperammonia. The most likely diagnosis is

- (1) Acrodermatitis enteropathica
- (2) Multiple carboxylase deficiency
- (3) Phenylketonuria
- (4) Vitamin B1 deficiency
- (5) Question not attempted

53. Which of the following disease occurs due to Acid sphingomyelinase deficiency ?

- (1) Krabbe disease
- (2) Gaucher disease
- (3) Niemann-Pick disease
- (4) Wolman disease
- (5) Question not attempted

54. Which of the following Amino acid is not involved in maple syrup urine disease ?

- (1) Lysine
- (2) Leucine
- (3) Valine
- (4) Isoleucine
- (5) Question not attempted

55. Which adrenal gland is most commonly affected by haemorrhage in newborns ?

- (1) Left adrenal
- (2) Right adrenal
- (3) Both Left adrenal and Right adrenal equally
- (4) Neither
- (5) Question not attempted

56. Which of the following statement is true ?

- (1) 25 (OH) D is converted to 125(OH)<sub>2</sub> D in liver.
- (2) Parathyroid hormone mobilize calcium from bone.
- (3) PTH increase serum phosphate level.
- (4) Vitamin D is converted to 25(OH)D in kidney.
- (5) Question not attempted



57. A pregnant woman is insulin dependent from the age of 24 year and taking insulin from last 5 year. Which of the following is her category according to White classification ?
- (1) Class A      (2) Class B
  - (3) Class C      (4) Class D
  - (5) Question not attempted
58. A neonate with DSD has 46XY karyotype, in USG uterus is visualized. What can be possible diagnosis except
- (1) Ovotesticular DSD
  - (2) Gonadal dysgenesis
  - (3) Persistent mullerian duct syndrome
  - (4)  $5\alpha$ -reductase deficiency
  - (5) Question not attempted
59. Which of the following is not correct about diagnosis of osteopenia of prematurity ?
- (1) Serum calcium normal level
  - (2) High alkaline phosphate level
  - (3) Low serum phosphorus
  - (4) High serum phosphorus
  - (5) Question not attempted
60. How does irradiation of blood components work ?
- (1) Kills bacteria in the blood
  - (2) Prevents lymphocyte proliferation
  - (3) Removes all leukocytes
  - (4) Inactivates CMV
  - (5) Question not attempted
61. Where is erythropoietin primarily produced in a fetus versus a 3-month old infant ?
- (1) Fetus : Bone marrow, Infant : Liver
  - (2) Fetus : Liver, Infant : Kidneys
  - (3) Fetus : Yolk sac, Infant : Spleen
  - (4) Fetus : Kidneys, Infant : Bone marrow
  - (5) Question not attempted
62. Early vitamin K deficiency occurs due to
- (1) Exclusively breast feeding
  - (2) Maternal Warfarin intake
  - (3) Cholestasis
  - (4) Absence of Vitamin K administration
  - (5) Question not attempted
63. Commonest cause of deep vein thrombosis of lower limb in neonates is
- (1) Umbilical venous line
  - (2) Hypernatremic dehydration
  - (3) Late onset sepsis
  - (4) Thrombotic disorder
  - (5) Question not attempted
64. Fetal-maternal haemorrhage is diagnosed with following test, except
- (1) Rosette screen
  - (2) Kleihauer-Betke Test
  - (3) Flow cytometry
  - (4) Cold Agglutination Test
  - (5) Question not attempted



65. Mention true statement about bleeding in neonate.

- (1) Classical Vitamin K deficient bleeding presents within 24 hours.
- (2) Fetal haemorrhage does not occur in alloimmune thrombocytopenia.
- (3) Retinal haemorrhage is always pathological in neonate.
- (4) Kleihauer-Betke (KB) test is used to detect foematerial haemorrhage.
- (5) Question not attempted

66. A term neonate (birth weight : 3.5 kg) presents with petechiae and a platelet count of  $22 \times 10^9/L$ . The Apgar score at 1 minute was 8 and there is no evidence of sepsis, asphyxia or congenital anomalies. Which of the following best supports a diagnosis of Neonatal Alloimmune Thrombocytopenia (NAIT) over other causes of thrombocytopenia ?

- (1) Presence of nucleated red blood cells on peripheral smear
- (2) Positive direct antiglobulin test (DAT)
- (3) Platelet count  $< 50 \times 10^9/L$  in an otherwise well neonate
- (4) Maternal history of Immune Thrombocytopenia (ITP)
- (5) Question not attempted

67. Which of the following technique is not used for pathogen reduction during blood product transfusion ?

- (1) Photochemical activation
- (2) Solvent detergent activation
- (3) Photoisomerization
- (4) Riboflavin use as photosensitizer
- (5) Question not attempted

68. Match each postnatal week with the correct rate of head growth (cm/week) observed in premature infants ( $< 1500$  g) with favourable neurological outcomes :

Postnatal Weeks	Rates of Head Growth (cm/week)
1. First week	A. 0.75
2. Second week	B. 0.50
3. Third week	C. -0.60
4. After the third week	D. 1.0
	E. 0.60

Choose the correct option :

- |     |                        |   |   |   |
|-----|------------------------|---|---|---|
|     | 1                      | 2 | 3 | 4 |
| (1) | C                      | B | A | D |
| (2) | B                      | C | A | E |
| (3) | D                      | E | C | A |
| (4) | A                      | C | D | B |
| (5) | Question not attempted |   |   |   |

69. Which condition is associated with intraventricular haemorrhage in pre-term neonates ?

- (1) Hypercarbia
- (2) Hypocarbia
- (3) Hyperkalemia
- (4) Hypokalemia
- (5) Question not attempted



70. Which of the following statement is false regarding MRI changes in case of Hypoxic Ischemic Encephalopathy (HIE) ?

- (1) Optimal time for detection of abnormalities in diffusion weighted MRI is 2-3 days.
- (2) Pseudonormalization occurs at 7-9 days.
- (3) In T<sub>1</sub> weighted image increased signal occurs in posterior limb of internal capsule.
- (4) Diffusion weighted MRI is more sensitive than conventional MRI.
- (5) Question not attempted

71. Which of the following EEG findings is most strongly associated with severe Periventricular Leukomalacia (PVL) in premature infants ?

- (1) Positive rolandic sharp waves
- (2) Generalized spike-and-wave discharges
- (3) Continuous low amplitude background activity
- (4) Frontal negative or occipital positive sharp waves
- (5) Question not attempted

72. A premature infant undergoes serial cranial ultrasounds. At 2 weeks of age, the ultrasound reveals bilateral echolucent foci (>3 mm) in the periventricular white matter. What is the most likely pathological correlate of this finding ?

- (1) Acute necrosis with congestion/haemorrhage
- (2) Cyst formation due to tissue dissolution
- (3) Gliosis with deficient myelination
- (4) Normal developmental variant
- (5) Question not attempted

73. Commonest nerve involved in peripheral nerve injury in neonates

- (1) Facial Nerve
- (2) Axillary Nerve
- (3) Phrenic Nerve
- (4) Recurrent Laryngeal Nerve
- (5) Question not attempted

74. Which seizure type most strongly suggests an inborn error of metabolism in a newborn ?

- (1) Tonic posturing
- (2) Autonomic apnea
- (3) Multifocal myoclonus
- (4) Behavioural arrest
- (5) Question not attempted

75. Modified Finnegan tool is used for

- (1) Birth Injury
- (2) Polydactyly
- (3) Neonatal Abstinence
- (4) Congenital Malformations
- (5) Question not attempted

76. Which condition is most likely to require early screening (24-48 hours after birth) due to rapid symptom onset ?

- (1) Congenital Hypothyroidism (CH)
- (2) Citrullinemia type II (CIT-II)
- (3) Congenital Adrenal Hyperplasia (CAH)
- (4) Galactosemia
- (5) Question not attempted

77. Which of the following pair related to teratogen is false ?

- (1) Lithium - Ebstein anomaly
- (2) ACE inhibitors - Renal agenesis
- (3) Propyl thiouracil - Nasal Hypoplasia
- (4) Phenytoin - Cleft Lip & palate
- (5) Question not attempted



78. Clinodactyly is

- (1) Incurving of digits
- (2) Fusion of digits
- (3) Supernumerary digits
- (4) Shortening of digits
- (5) Question not attempted

79. White line of demarcation in the posterior retina separating vascular and avascular retina is classified as

- (1) Stage I ROP
- (2) Stage II ROP
- (3) Stage III ROP
- (4) Aggressive ROP
- (5) Question not attempted

80. Most common cause of non-immune hydrops after 24 weeks of gestation is

- (1) Cardiovascular & thoracic
- (2) Haematological abnormality
- (3) Lymphatic malformations
- (4) Renal malformations
- (5) Question not attempted

81. What is the most reliable examination finding for DDH in babies older than 12 weeks ?

- (1) Asymmetric thigh folds
- (2) Limitation of hip abduction
- (3) Positive Galeazzi sign
- (4) High-pitched clicks
- (5) Question not attempted

82. A 36-hour old, healthy-appearing term newborn is undergoing routine CCHD screening with pulse oximetry prior to discharge. The initial readings show :

- Right hand (preductal) : 93%
- Foot (postductal) : 93%

One hour later, repeat measurements are :

- Right hand : 94%
- Foot : 92%

The infant is afebrile, breastfeeding well and has no respiratory distress. Which of the following is the most appropriate next step ?

- (1) Discharge home with routine follow-up
- (2) Repeat pulse oximetry in 1 hour
- (3) Obtain an echocardiogram and consult pediatric cardiology
- (4) Administer supplemental oxygen and monitor
- (5) Question not attempted

83. A unique initiative "Hridyam" to support children with congenital heart disease is started by which State Government ?

- (1) Karnataka (2) Tamil Nadu
- (3) Kerala (4) Rajasthan
- (5) Question not attempted

84. Double walled incubator prevent heat loss primarily due to

- (1) Evaporation (2) Conduction
- (3) Convection (4) Radiation
- (5) Question not attempted



85. Which of the following is true about erythema toxicum ?
- (1) Common in pre-term neonate
  - (2) Usually present at birth
  - (3) Involves palm and soles too
  - (4) Eosinophilic infiltrate in smear from it
  - (5) Question not attempted
86. Which of the following is incorrect regarding Miliaria in infants ?
- (1) Characterized by crops of superficial vesicles
  - (2) Occurs due to blockage of sweat gland ducts
  - (3) Exacerbated by cold and dry environment
  - (4) Generally no topical therapy is indicated.
  - (5) Question not attempted
87. Sub-periosteal blood resulting from rupture of superficial vein is called
- (1) Caput succedaneum
  - (2) Cephalohaematoma
  - (3) Subgaleal haematoma
  - (4) Periostitis
  - (5) Question not attempted
88. The Neonatal Clinical Skin Condition Score (NCCS) assesses which of the following skin characteristics in neonates ?
- (1) Skin temperature, colour and texture
  - (2) Skin hydration, perfusion and elasticity
  - (3) Dryness, erythema and breakdown
  - (4) Rash, edema and pigmentation
  - (5) Question not attempted
89. Oculocutaneous albinism type-1 occurs due to
- (1) Phenylalanine hydroxylase deficiency
  - (2) Tyrosinase deficiency
  - (3) Acid maltase deficiency
  - (4) PAX-3 gene mutation
  - (5) Question not attempted
90. Which finding would most strongly suggest infection rather than environmental overheating ?
- (1) Toe-to-abdominal temperature difference  $< 1^{\circ}\text{C}$
  - (2) Toe-to-abdominal temperature difference  $> 2.5^{\circ}\text{C}$
  - (3) Equal abdominal and toe temperatures
  - (4) Abdominal temperature lower than toe temperature
  - (5) Question not attempted
91. Following feature distinguishes toxic epidermal necrolysis (TEN) from staphylococcal scalded syndrome in neonates :
- (1) Nikolsky sign
  - (2) Desquamation
  - (3) Bullae
  - (4) Mucosal blistering
  - (5) Question not attempted
92. Which of the following is a wrong match ?
- (1) Ganciclovir - CMV
  - (2) Trifluridine - Rubella
  - (3) Acyclovir - Varicella Zoster
  - (4) Oseltamivir - Influenza
  - (5) Question not attempted



93. Which of the following is not a feature of chorioamnionitis definition ?

- (1) Fever  $> 101^{\circ}\text{F}$
- (2) Maternal Tachycardia
- (3) Fetal Tachycardia
- (4) Maternal Thrombocytopenia
- (5) Question not attempted

94. Which intrauterine infection causes cicatricial skin lesion, limb hypoplasia and seizure ?

- (1) Congenital herpes
- (2) Congenital rubella
- (3) Congenital varicella
- (4) Congenital toxoplasmosis
- (5) Question not attempted

95. True statement about urinary tract infection, except

- (1) More common in male baby in the neonatal period.
- (2) Uncircumcised males are at high risk.
- (3) Commonly occurs in first 3 days of life.
- (4) More common in pre-term neonate.
- (5) Question not attempted

96. Microphthalmia, microcephaly and subcortical intracranial calcification is classic feature of

- (1) Congenital CMV
- (2) Congenital Rubella
- (3) Congenital Toxoplasmosis
- (4) Congenital Zika Virus
- (5) Question not attempted

97. Which of the following statement is false ?

- (1) Procalcitonin synthesized in parathyroid gland.
- (2) Procalcitonin is precursor of calcitonin.
- (3) In healthy baby procalcitonin level peaks at 24 hours.
- (4) Procalcitonin increase in bacterial infection.
- (5) Question not attempted

98. Which of the following statements regarding antifungal prophylaxis in neonates is false ?

- (1) Use of Fluconazole for prophylaxis does not lead to increased resistance.
- (2) Oral Nystatin is less well tolerated by extreme preterms due to high osmolality.
- (3) Delaying antifungal prophylaxis until after colonization has been detected is 30% more effective compared to starting early treatment within 72 hours.
- (4) IDSA recommends Fluconazole prophylaxis in units with  $> 10\%$  incidence of invasive candidiasis
- (5) Question not attempted

99. Which of the following substance improved sepsis related mortality ?

- (1) Breast milk
- (2) IVIG
- (3) GM-CSF
- (4) Pentoxifylline
- (5) Question not attempted



100. Which of the following screening blood tests (if antenatal serological reports within the past 6 months are not available) are mandatory for women to donate milk in the lactation management unit ?

- (1) HIV 1 or 2, Hepatitis B and Hepatitis C
- (2) Syphilis/VDRL, Hepatitis B and Hepatitis C
- (3) HIV 1 or 2, Hepatitis B and Syphilis/VDRL
- (4) Syphilis/VDRL, Hepatitis B and Hepatitis A
- (5) Question not attempted

101. Which of the following are recommendations as per National Guidelines for discarding pasteurized milk ?

- (1) More than  $10^4$  CFU/ml
- (2) More than  $10^5$  CFU/ml
- (3) More than 100 CFU/ml
- (4) More than 10 CFU/ml
- (5) Question not attempted

102. According to our National Guidelines, comprehensive lactation management centers should be established in

- (1) Medical college & large district hospital
- (2) District hospital
- (3) All delivery points
- (4) Primary health center
- (5) Question not attempted

103. If a district hospital conducts 4000 delivery/year, how many SNCU beds are recommended for this hospital ?

- (1) 12                      (2) 16
- (3) 50                     (4) 20
- (5) Question not attempted

104. Proprietary Article Certificate is to be provided by the department before procuring the goods from a single source under provision of which rule ?

- (1) Rule 165            (2) Rule 166
- (3) Rule 167            (4) Rule 168
- (5) Question not attempted

105. Early Intervention Center is established to

- (1) Manage disability
- (2) Reduce Neonatal Mortality rate
- (3) Manage Cerebral Palsy
- (4) Intervene early and minimize disability
- (5) Question not attempted

106. District early intervention center is primarily for which age group ?

- (1) 2 year of age
- (2) 6 year of age
- (3) 1 year of age
- (4) 1 month of age
- (5) Question not attempted

107. What should be ambient lighting level in NICU ?

- (1) 2000 lux
- (2) 10 – 600 lux
- (3) 2 – 10 lux
- (4) > 1000 lux
- (5) Question not attempted

108. Indian Newborn Action Plan (INAP) target includes

- (1) Still birth rate < 15 by 2035
- (2) Still birth rate < 20 by 2030
- (3) Neonatal mortality rate < 15 by 2035
- (4) Neonatal mortality rate < 10 by 2030
- (5) Question not attempted



109. 'LaQshya' programme has following objective, except

- (1) Reduce maternal morbidity & mortality
- (2) Improve quality of care during delivery
- (3) Free delivery and transport
- (4) Provide respectful maternity care
- (5) Question not attempted

110. Which of the following is false about Home Based Newborn Care (HBNC) ?

- (1) Launched in 2011
- (2) Has incentivized Accredited Social Health Activist (ASHA) for making visits to all newborns and their mothers.
- (3) The visits are done till 6 months of age of baby.
- (4) The responsibilities of ASHA include recording of weight of baby, ensuring birth immunization and registration of birth
- (5) Question not attempted

111. Which of the following services are available at newborn stabilization units except ?

- (1) Breast-feeding support
- (2) Resuscitation
- (3) Phototherapy for jaundice
- (4) Management of very low birth weight neonate
- (5) Question not attempted

112. In a hospital 4500 mothers delivered in a given year. Out of these deliveries 100 babies were still birth and 22 babies died in first 28 days. Calculate Neonatal mortality rate.

- (1) 5                      (2) 4.8
- (3) 50                    (4) 48
- (5) Question not attempted

113. Which of the following is not a component of essential newborn care ?

- (1) Thermal protection
- (2) Thyroid screening
- (3) Immunization
- (4) Vitamin K prophylaxis
- (5) Question not attempted

114. Sustained Development Goal (SDG) target is

- (1) Reduce Neonatal Mortality to 12 by 2030
- (2) Reduce Neonatal Mortality to 10 by 2030
- (3) Reduce Maternal Mortality to 100/1,00,000 live birth
- (4) Reduce under 5 mortality to 12 by 2030
- (5) Question not attempted

115. Globally the commonest cause of neonatal mortality is

- (1) Birth defects
- (2) Birth asphyxia
- (3) Prematurity
- (4) Sepsis
- (5) Question not attempted



- 116.** The Anal Position Index (API) is used to assess anterior displacement of the anus, which may be associated with constipation. How is the API calculated, and what is considered an abnormal value in girls ?
- (1) (Anus to vaginal fourchette distance) / (Coccyx to vaginal fourchette distance); abnormal if  $\leq 0.34$ .
  - (2) (Coccyx to vaginal fourchette distance) / (Anus to vaginal fourchette distance); abnormal if  $\geq 0.46$
  - (3) (Anus to scrotum distance)  $\times$  (Coccyx to scrotum distance); abnormal if  $\leq 0.34$
  - (4) (Anus to vaginal fourchette distance) + (Coccyx to vaginal fourchette distance); abnormal if  $\geq 0.46$
  - (5) Question not attempted
- 117.** New Ballard Scoring (NBS) is used for calculating gestational age. What is the gestational age (in weeks) of a newborn if NBS score is zero (0) ?
- (1) 0                      (2) 22
  - (3) 24                      (4) 26
  - (5) Question not attempted
- 118.** Which out of these is not the component of Fetal Biophysical profile ?
- (1) Tone
  - (2) Amniotic fluid
  - (3) NST
  - (4) Fetal doppler
  - (5) Question not attempted
- 119.** The CRIES Pain assessment scale is most commonly used for which type of pain in newborns ?
- (1) Procedural pain
  - (2) Postoperative pain
  - (3) Prolonged pain
  - (4) Chronic pain
  - (5) Question not attempted
- 120.** Most frequent cause of hypotension in pre-term infant is
- (1) Hypovolemic shock
  - (2) Distributive shock
  - (3) Adrenal insufficiency
  - (4) Obstructive shock
  - (5) Question not attempted
- 121.** Most common cause of non-hereditary sensory-neural hearing loss in neonate is
- (1) Congenital Rubella
  - (2) Congenital CMV
  - (3) Connexin 26
  - (4) Otitis media
  - (5) Question not attempted
- 122.** For a "high" Umbilical Arterial Catheterisation (UAC) in a 2.5 kg neonate (umbilical stump = 2 cm), what is the correct insertion depth using the weight-based formula ?
- (1) 14.5 cm              (2) 16.5 cm
  - (3) 18.5 cm              (4) 20.5 cm
  - (5) Question not attempted
- 123.** When should preterm babies receive their vaccines according to guidelines ?
- (1) Corrected gestational age
  - (2) Chronological age
  - (3) Weight-based schedule
  - (4) Only after discharge from NICU
  - (5) Question not attempted



124. Late splitting of embryo (> 14 days) leads to formation of

- (1) Dichorionic diamniotic twin
- (2) Conjoined twin
- (3) Monochorionic monoamniotic twin
- (4) Monochorionic diamniotic twin
- (5) Question not attempted

125. All of the following disease occurs due to trinucleotide repeat expansion, except :

- (1) Congenital myotonic dystrophy
- (2) Friedreich's Ataxia
- (3) Fragile x syndrome
- (4) Spinal muscular atrophy
- (5) Question not attempted

126. Match List-I with List-II and select the correct answer from the options given below :

**List-I**

**List-II**

- |                               |   |
|-------------------------------|---|
| 1. Primary neurulation        | A. 5 months of gestation to years postnatally |
| 2. Prosencephalic development | B. 3-5 months of gestation                    |
| 3. Neuronal proliferation     | C. Birth to years postnatally                 |
| 4. Neuronal migration         | D. 3-4 months of gestation                    |
| 5. Organization               | E. 3-4 weeks of gestation                     |
| 6. Myelination                | F. 2-3 months of gestation                    |

**Codes :**

- |     | 1                      | 2 | 3 | 4 | 5 | 6 |
|-----|------------------------|---|---|---|---|---|
| (1) | E                      | F | D | B | A | C |
| (2) | C                      | D | E | B | A | F |
| (3) | D                      | C | B | E | A | F |
| (4) | D                      | C | E | B | F | A |
| (5) | Question not attempted |   |   |   |   |   |

127. Which of the following is not a neural migration disorder ?

- (1) Schizencephaly
- (2) Lissencephaly
- (3) Holoprosencephaly
- (4) Heterotopia
- (5) Question not attempted

128. Which of the following is not correctly matched ?

- (1) Embryonic phase – Lung bud arises from ventral foregut endoderm
- (2) Pseudoglandular stage – Trachea and oesophagus separate
- (3) Canalicular stage – Surfactant synthesized and stored by type-II cell
- (4) Alveolar stage – Secondary alveolar septa form true alveoli
- (5) Question not attempted

129. Which of the following hormone conditionally crosses the placenta in a setting of fetal hypothyroidism ?

- (1) TSH
- (2) T3
- (3) T4
- (4) None of these
- (5) Question not attempted

130. All are Biometric measures used in fetal ultrasound to assess the fetal growth, except

- (1) Head circumference
- (2) Nuchal thickness
- (3) Femur length
- (4) Abdominal circumference
- (5) Question not attempted



131. Which of the following is not correct about bilirubin metabolism?

- (1) Haemoglobin released from senescent RBCs in the reticuloendothelial system or from ineffective erythropoiesis accounts for 40% to 50% of bilirubin production.
- (2) One gram of haemoglobin produces 34 mg of bilirubin.
- (3) The microsomal enzyme haeme oxygenase oxidizes the heme ring from heme-containing proteins to biliverdin and carbon monoxide.
- (4) The enzyme biliverdin reductase reduces biliverdin to bilirubin.
- (5) Question not attempted

132. What is the normal direction of cardiac looping during embryogenesis?

- (1) Leftward (L-looping)
- (2) Rightward (D-looping)
- (3) Upward
- (4) No looping occurs
- (5) Question not attempted

133. Which of the following is incorrect about quality improvement in Neonatology?

- (1) Plan-Do-Study-Act cycle
- (2) The Pareto Principle, also known as the 70/30 rule, suggests that roughly 70% of the effects come from 30% of the causes.
- (3) The aim statement in quality improvement studies should be SMART (Specific, Measurable, Achievable, Relevant and Time Bound).
- (4) Lean is a quality improvement model that focuses on reducing process waste and improving process flow.
- (5) Question not attempted

134. A Neonatology trainee is reviewing the pathophysiology of bronchopulmonary dysplasia (BPD) in preterm infants. Which of the following best reflects the highest level of cognitive learning (as per Bloom's taxonomy) required for this objective?

- (1) Remembering the diagnostic criteria for BPD
- (2) Understanding the role of oxygen toxicity in BPD development
- (3) Analyzing how antenatal steroids modify BPD risk.
- (4) Creating a protocol to reduce BPD incidence in a NICU.
- (5) Question not attempted

135. Which of the following is incorrect about Simulation in Neonatology?

- (1) It is focused to provide a more standardized experience to trainees.
- (2) Simulation is integral part of Neonatal Resuscitation Program courses.
- (3) Low fidelity simulators are more realistic than high fidelity simulators.
- (4) Simulation can be used to facilitate the evaluation of competency during procedural training.
- (5) Question not attempted

136. Comparison of two proportions when sample is matched, is done by

- (1) Z test
- (2) Fisher test
- (3) McNemor's test
- (4) Yates test
- (5) Question not attempted



137. Match the following :

Types of Studies	Reporting Guidelines
1. Randomized controlled trials	a. CONSORT
2. Cohort studies	b. SQUIRE
3. Quality improvement studies	c. COREQ
4. Qualitative research	d. STROBE

Codes :

- |     |                        |   |   |   |
|-----|------------------------|---|---|---|
|     | 1                      | 2 | 3 | 4 |
| (1) | a                      | d | b | c |
| (2) | a                      | c | d | b |
| (3) | a                      | c | b | d |
| (4) | a                      | d | c | b |
| (5) | Question not attempted |   |   |   |

138. Which statistical test should be used for comparing three independent treatment groups with continuous data ?

- (1) Mann Whitney U test
- (2) Paired 't' test
- (3) ANOVA
- (4) Fisher exact test
- (5) Question not attempted

139. Rejecting the null hypothesis when it is actually true describes a

- (1) Type I error (false positive)
- (2) Type II error (false negative)
- (3) Power of the study
- (4) Clinically significant result
- (5) Question not attempted

140. Which of the following is the correct sequence of group formation ?

- (1) Forming → Norming → Storming → Performing
- (2) Performing → Norming → Storming → Forming
- (3) Forming → Storming → Norming → Performing
- (4) Performing → Forming → Storming → Norming
- (5) Question not attempted

141. Which factor carries the highest risk for preterm birth in a subsequent pregnancy ?

- (1) Maternal smoking during pregnancy
- (2) History of a previous preterm birth
- (3) Gestational diabetes diagnosis
- (4) Advanced maternal age (>35 years)
- (5) Question not attempted

142. The "thrifty phenotype" hypothesis proposes that

- (1) Fetal adaptations to nutrient abundance lead to adult obesity.
- (2) Fetal adaptations to undernutrition prioritize organ survival but increase disease risk later.
- (3) Maternal diabetes programs the fetus for optimal glucose metabolism.
- (4) Catch-up growth eliminates the effects of intrauterine growth restriction.
- (5) Question not attempted



143. A 34-week pregnant patient undergoes an NST. The tracing shows a baseline FHR of 140 bpm, moderate variability and two accelerations of 16 bpm lasting 16 seconds each within 20 minutes. How is this result classified ?
- (1) Non-reactive
  - (2) Reactive
  - (3) Inadequate
  - (4) Suspicious
  - (5) Question not attempted
144. Elevated amniotic fluid AFP with acetylcholinesterase (AChE) is most suggestive of
- (1) Down syndrome
  - (2) Turner syndrome
  - (3) Maternal contamination
  - (4) Neural Tube Defects (NTDs)
  - (5) Question not attempted
145. Which is the only cord abnormality where prompt intervention can prevent fetal death ?
- (1) Cord stricture
  - (2) Cord knot
  - (3) Cord entrapment
  - (4) Cord prolapse
  - (5) Question not attempted
146. Following are strategies for managing preeclampsia in a pregnant woman :
- A. Routine magnesium sulfate for all preeclampsia cases
  - B. Antihypertensive therapy for systolic BP > 160 mmHg
  - C. Continuous electronic fetal monitoring during labour
  - D. Aggressive IV fluid administration
- Which of these are not recommended in standard practice ?
- (1) A & B
  - (2) A & D
  - (3) B & C
  - (4) C & D
  - (5) Question not attempted
147. Which of the following imaging of mother have highest fetal radiation dose ?
- (1) Mammography
  - (2) Abdominal X-ray
  - (3) CT Abdomen
  - (4) Tc-99 Bone scintigraphy
  - (5) Question not attempted
148. There were 2900 live births and 100 still births in a hospital during year 2023. In the same year 60 newborn died among which 50 died in the first week of life. Calculate the perinatal mortality rate.
- (1) 50
  - (2) 5.5
  - (3) 55
  - (4) 5.0
  - (5) Question not attempted
149. A neonate was delivered by forceps. She is unable to grasp an examination. Biceps and radial reflex are present. She has sensory impairment on ulnar side of forearm. This clinical picture most likely indicates
- (1) Erb's Palsy
  - (2) Complete Brachial Plexus Palsy
  - (3) Klumpke's Palsy
  - (4) Duchenne Palsy
  - (5) Question not attempted
150. ReCoDe classification is used for
- (1) Codeine overdose
  - (2) Still birth
  - (3) Resuscitation
  - (4) Data record
  - (5) Question not attempted



# रफ कार्य के लिए स्थान / SPACE FOR ROUGH WORK

147. A 34-week gestation fetus is delivered by cesarean section. The placenta is delivered intact. The fetus is delivered with a head circumference of 34 cm, a weight of 3.5 kg, and a length of 48 cm. The placenta weighs 1.2 kg and has a surface area of 18 cm<sup>2</sup>. The placental blood flow is 1.2 L/min. The placental blood flow is most likely to be:

- (1) 1.2 L/min
- (2) 1.5 L/min
- (3) 1.8 L/min
- (4) 2.0 L/min
- (5) Question not attempted

148. There were 2000 live births and 100 stillbirths in a hospital during year 2023. In the same year 60 newborn died among which 50 died in the first week of life. Calculate the perinatal mortality rate.

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149. A neonate was delivered by forceps. She is unable to grasp an examination glove and radial reflex are present. She has sensory impairment on ulnar side of forearm. The clinical picture most likely indicates:

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- (2) A & D
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- (4) C & D
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