

MARKS OBTAINED _____



NNF Neonatal Doctor's Fellowship Examination 2016

Theory Paper 1

Multiple Choice Questions

Roll No _____

Duration 2 hours

Maximum Marks: 100

General Instruction : For Wrong answers 25% of marks allotted to that question shall be deleted

THE BOOKLET IS TO BE RETURNED BACK FOR EVALUATION

Section 1.

Single response type : Each question carries 1 mark

Write the most appropriate answer in the box provided

Q1 Adequate renal function and amniotic fluid production is NOT required in the fetus for which one of the following functions?

- A. Excretion of waste products
- B. Protection against infection.
- C. Maintenance of temperature.
- D. Development of the respiratory system.

Q2 A 16-day-old ex 32 week male infant, birthweight 1750 g, is self-ventilating in air in the special care nursery. He has been on full nasogastric feeds of breast milk only and is not on any medications. On routine observations he is noted to have an axillary temperature of 37.6 °C, his pulse rate is 180 beats/min and his respiratory rate is 65 breaths/min. He appears to be well wrapped in the incubator. The microscopy results of the bag urine are as follows: White cell count: 14-15 /hpf; Red cell count: 20 000/mL; Epithelial cells: 30 000/mL. Comment: bacteria seen. Which one of the following is the MOST appropriate next step in management?

- A. Collect a suprapubic aspirate.
- B. Start oral antibiotics.
- C. Unwrap the baby.
- D. Repeat the bag urine

Q3. A baby is about to be delivered at 26 weeks' gestation. The mother received two doses of betamethasone 24 hours ago. Which one of the following is good practice in the first 'golden hour' after delivery?

- A. All babies at this gestation should be intubated electively at birth to receive surfactant.
- B. The baby should be born into a plastic bag or wrap so that he can maintain body temperature.
- C. Saturation probe to be attached to the baby's left hand and oxygen given until the SAO_2 is $>96\%$.
- D. The baby should be dried, weighed and then placed under a radiant heater.

Q4. A female infant is born with an omphalocele . The Gestation is 38 weeks and Birth weight 4500 g. The omphalocele was covered with a clear polythene film after birth and the baby has been admitted to the nursery for intravenous 10% dextrose while awaiting surgical consult. Venous plasma glucose is 1.1 mmol/L. The baby's core temperature is 36.4 °C. Which one of the following is the most likely cause for this plasma glucose reading?

- A. Defect in fatty acid oxidation.
- B . Temperature of 36.4 C
- C . Abnormal insulin secretion
- D . Delayed serum cortisol response.

Q5. Which one of the following is the most useful tool in the prediction of neurodevelopmental outcome for a baby with moderate encephalopathy secondary to hypoxic–ischaemic encephalopathy (HIE)?

- A A..Doppler assessment of the cerebral arteries.
- B Bedside amplitude integrated EEG.
- C MRI Brain.
- D . clinical Neurological examination.

Q6. A baby is found to have a loud (3/6) 'rasping' systolic murmur at the lower left sternal edge on day 2 of life. The pulses are normal and the baby does not look cyanosed. Which one of the following is a MOST LIKELY diagnosis?

- A .Atrial septal defect .
- B .Pulmonary atresia with ventriculo-septal defect .
- C.Ventriculo-septal defect .
- D.Patent ductus arteriosus .

Q7 Which one of the following practices may INCREASE the risk of complications arising using parenteral nutrition?

- A .Prophylactic antifungals.
- B .Prophylactic antibiotics.
- C. Prophylactic insulin infusion.
- D .All of the above

Q8.A baby is born at 37 weeks' gestation with antenatally diagnosed transposition of the great arteries (TGA). The mother has poorly controlled insulin-dependent diabetes. Baby is dried and wrapped and transferred to the neonatal unit . Preductal SAO₂ is 65%. Which of the following actions should NOT be performed within the next 30 min?

- A . Transfer the baby immediately to the nearest specialist cardiac centre.
- B . Check blood glucose and temperature of baby
- C .Monitor pre- and post ductal oxygen saturations
- D .Start a prostaglandin E₁ infusion.

Q9. An -25-week male infant at birth has have the following ophthalmological findings on a 34 week review: 'Demarcation line zone 3 bilaterally'. The parents have asked you what stage of retinopathy of prematurity (ROP) their son has. Which of the staging best describes this finding?

- A . Stage 1.
- B. Stage 2.
- C . Stage 3.
- D . Stage 4.

Q10. A 28-week infant, weighing 900 g on day 2 of life, is commenced on caffeine for treatment of apnoea of prematurity. Which one of the following is the MAJOR SHORT TERM BENEFIT (i.e. prior to hospital discharge) of commencing caffeine compared with no treatment?

- A . Decreased rate of apnoea
- B .Decreased rate of necrotizing enterocolitis (NEC).
- C ..Increased weight gain.
- D .Decreased incidence of periventricular leucomalacia

11. Most newborns normally have following, except :

- A. Mongolian spots
- B. Simian crease
- C. Milia
- D. Epstein Pearls

12. The product of conception is called embryo during :

A. 0-14days

B. 0-12 weeks

C. 14 days to 9 weeks

D. 9-28 weeks

13. Craniotables may be present in following congenital conditions at birth, *except* :

A. Rickets

B. Syphilis

C. Hydrocephalus

D. Craniosynostosis

14. The most commonly involved bone in cephalhematoma is :

A. Frontal

B. Temporal

C. Parietal

D. Occipital

15. Oligohydramnious may be associated with which of the following :

A. Amnion nodosum

B. Pulmonary hypoplasia

C. Urethral atresia

D. All of the above

16. Polyhydramnios is usually associated with :

A. Renal agenesis

B. neural tube defects

C. Potter facies

D. None of the above

17. Following may be normal findings in full term newborns *except* :

A. Enlarged clitoris

B. Mastitis neonatorum

C. Phimosis

D. Palpable kidneys

18. Cyanotic spell may be presenting feature of following, *except* :

- A. Septicemia
- B. Hypoglycemia
- C. Meningitis
- D. Adrenal hemorrhage

19. To differentiate caput succedaneum from cephalhematoma following features may help, *except* :

- A. Age of onset
- B. Disappearance time
- C. Relationship with suture lines
- D. Mode of delivery

20. The spalding sign is :

- A. Gas in fetal circulation
- B. Fetus rolled into a ball
- C. Overriding of cranial bones
- D. Accentuation of lumbo-sacral curve

21. Generalized edema in newborn is associated with following conditions, *except* :

- A. Extreme prematurity
- B. Congenital nephrosis
- C. Fluid over load
- D. Lymphatic malformation

22. Swallowing rate of amniotic fluid in term fetus (ml/day) is approximately :

5

- A. 200
- B. 400
- C. 600
- D. 800

23. Following characterize mastitis neonatorum, *except* :

- A. Benign entity
- B. caused by transplacentally acquired maternal estrogens
- C. Actual milk secretion may be seen on squeezing
- D. Only female babies are affected.

24. The movements of the fetus may first be felt by mother at what gestation (weeks):

- A. 12-14
- B. 16-18
- C. 20-22
- D. 24-26

25. Unfusing of eyelids start at what gestation (weeks):

- A. 12
- B. 22
- C. 32
- D. None of the above

26. Complete eye opening in fetal life occurs by what gestation (weeks):

- A. 24
- B. 28
- C. 32
- D. 36

27. The error in assessment of gestational age by extended Ballard score is in the range (\pm weeks) of :

- A. 1
- B. 2
- C. 3
- D. 4

28. The vertical transmission of Hepatitis B virus to the neonate can occur :

6

- A. During third trimester of pregnancy
- B. At time of delivery
- C. Through Breast milk
- D. All of the above

29. Newborn baby is susceptible to which one of the following infections at birth inspite of adequate maternal antibodies :

- A. Pertussis
 - B. Tetanus
 - C. Diphtheria
 - D. Polio
-

30. The transmission of spirochetes from mother to fetus can occur during which trimester :

- A. First
 - B. Second
 - C. Third
 - D. Throughout the gestation
-

31. Which of the following drugs is used for treating chorioretinitis due to cytomegalovirus disease :

- A. Gancyclovir
 - B. Acyclovir
 - C. Ribavarine
 - D. Amanatidine.
-

32. Which intrauterine infection causes characteristic cicatricial skin lesions and hypoplastic extremities :

- A. Varicella Zoster Virus
 - B. Cytomegalo virus
 - C. Herpes simplex
 - D. Parvo virus
-

33. The rate of transmission (%) of HIV infection from untreated infected mothers to her offspring is :

- A. <15
B. 15-40
C. 41-65
D. 66-90

34. Chlamydial conjunctivitis usually appears after how many days of birth :

- A. 2
B. 3
C. 4
D. 5

35. Biliary atresia is known to be associated with which virus :

- A. Parvo virus
B. Entero virus
C. Reovirus
D. Retrovirus

36. What percent of newborns with perinatal herpes simplex infection develop disseminated disease :

- A. 20
B. 40
C. 60
D. 80

37. What is the risk of infection being transmitted with breast milk containing cytomegalo virus :

- A. <20
B. 20-40
C. 41-60
D. 61-80

38. The bloody diarrhea in a neonate can be presentation in following infections , **Except:**

- A. Listeriosis
B. Campylobacter
C. Shigella
D. Salmonella.

39. Commonest etiological agent responsible for pseudomembraneous colitis is :

- A. E Coli B. Shigella
- C. Clostridium difficile D. None of the above

40. Staphylococcal scalded skin syndrome is caused by which of the following phase groups :

- A. I B. II
- C. I & II D. None

41. Which maternal infection during pregnancy is associated with aqueductal stenosis in the baby :

- A. Mumps B. Rubella
- C. Cytomegalovirus D. Toxoplasmosis

42. Which of the following maternal genital infection is an indication for delivery of baby by caesarian section :

- A. Tuberculosis B. Chlamydia
- C. Syphilis D. Herpes simplex

43. The incidence of twin deliveries is 1 in :

- A. 40 B. 80
- C. 120 D. 160

44. If mother is HbsAg carrier, the hepatitis B vaccine should be administered within how many hours of birth :

- A. 12 B. 24
- C. 48 D. 72

45. Which one of the Following is associated with “collodion” skin :

- A. Ellisvan creveld syndrome
- B. Ehlers-Danlos syndrome
- C. Cutis laxa
- D. Neu-Laxova syndrome.

Section 2

Multiple Response Type Each question has 4 options .One or more options may be correct.

Use following key to answer the question.

- 1. If options A,B &C are correct
- 2. if options A&C are correct
- 3. if B&D are correct
- 4. if option D is correct
- 5. if all options are correct

Each Question carries 1 mark

46 Of the following drugs which are enzyme inducers in nature and can be used in management of neonatal hyperbilirubinemia:

- A. Aspartic acid
- B. Desferoxamine
- C. Orotic acid
- D. Penicillamine.

47. Symmetrical fetal growth retardation is associated with :

- A. Severe maternal undernutrition from day of conception
- B. Severe congenital / chromosomal disorders
- C. Smoking mothers
- D. Mother with pre eclamptic toxemia.

48. Following are features of premature baby :

10

- A. Fine, fuzzy hair
- B. Craniotables over centres of oscification of both parietal bones
- C. Sole creases over anterior one third
- D. Alert look.

49. Following symptoms suggest hypothyroidism in neonatal period :

- A. Prolonged physiological jaundice
- B. Vomiting
- C. Hoarse cry
- D. Increase in appetite.

50. Following drugs may cause withdrawal symptoms :

- A. Magnesium sulphate
- B. Theophylline
- C. Barbiturates
- D. Bromide.

51. Following drugs are contraindicated in nursing mothers :

- A. Lithium
- B. Cytotoxics
- C. Phenindione
- D. Ergot-alkaloids.

52. Which of the following may cause constipation in newborn :

- A. Anal fissure
- B. Hirschsprung's disease
- C. Diet high in protein
- D. Diet high in carbohydrates.

53. Following drugs can cause shock if administered to newbown :

- A. Muscle relaxant
- B. Halothane
- C. Ether
- D. Vancomycin.

54. Following can be used as substrate for brain metabolism :

- A. Lactate
- B. Glycerol
- C. Glucose
- D. Ketone bodies.

55. Following factors are responsible for hypoglycemia in neonatal septicemia :

- A. Inadequate caloric intake
- B. Increased metabolic rate
- C. Decreased hepatic gluconeogenesis
- D. Increased sensitivity to insulin.

56. Following manifestations are infectious in early onset congenital syphilis :

- A. Cutaneous lesions
- B. Dactylitis
- C. Serosanguinous nasal discharge
- D. Chorio retinitis

57. Following drugs if given to mother are implicated in acute renal failure in neonates :

- A. Indomethacin
- B. Propranolol
- C. Captopril
- D. Nitrous oxide.

58. Maternal urinary estriol determinations can be used to assess :

- A. Gestational age of fetus
- B. Fetal death
- C. Sex of fetus
- D. Placental functioning.

59. Dislocated lens is associated with following conditions :

- A. Homocystinuria
- B. Marfan syndrome
- C. Weill-marchesani syndrome
- D. Neu-Laxova syndrome.

60. Following syndromes are associated with large tongue :

- A. Beckwith-Wiedemann syndrome
- B. GMI gangliosidosis
- C. Hypothyrodism
- D. Mohr's syndrome.

Section 3

True/False type

Each question carries 2 marks

Each Question has 4 options which can be true or false. Write **T if it is true or **F** it is false**

61. Following can cross the placenta :

- A. IgM antibodies
- B. Microfilaria
- C. Sodium bicarbonate
- D. Carbimazole.

62. In a normal term newborn infant during first 24 hours of life :

- A. Systolic blood pressure is between 30 to 40 mm of Hg.
- B. Majority of murmurs are due to structural defects.
- C. CSF cell count may be up to $100/\text{mm}^3$
- D. CSF protein content may be up to 100 mg./dl.

63. Hypothermia in newborn may be associated with :

- A. Hypoglycemia
- B. Hypocalcemia
- C. Fall in oxygen consumption
- D. Acidosis

64. In neonatal tetanus :

- A. The mortality is usually above 50 per cent.
- B. Shorter the incubation period poorer is the prognosis.
- C. Infection provides lifelong immunity.
- D. Loss of consciousness suggests severe illness.

65. In patent ductus arteriosus :

- A. Spontaneous closure in preterms may occur during first 3 months.
- B. Spontaneous closure in full terms may occur during first 3 months.
- C. Prostaglandins result in closure of duct.
- D. Severe birth anoxia with metabolic acidosis delays closure of duct.

66. Following may be suggestive of convulsion in a newborn :

- A. An apnoeic episode
- B. Smacking of lips
- C. Orofacial buccal movements
- D. Vacant look.

67. Subaponeurotic hemorrhage is characterized by :

- A. Hemorrhage occurring below epicranial aponeurosis.
- B. Fatal anemia.
- C. Boggy mass in occipital region in lying child
- D. Conservative management.

68. Following are the statements regarding management of congenital adrenal hyperplasia :

- A. 10-12 mmol/kg/day of salt intake in salt wasting type
- B. Fludrocortisone 100 to 300 $\mu\text{g}/\text{day}$
- C. Potassium supplementation of 3 mEq/kg/day
- D. Hydrocortisone 10-12 $\text{mg}/\text{m}^2/\text{day}$.

69. Following are the statements regarding bilirubin metabolism :

- A. One mole of albumin binds only one mole bilirubin.
- B. First binding site has greatest affinity.
- C. Multiple binding sites for albumin exist.
- D. Conjugation mechanism in intrauterine life is harmful for fetus

70. Following statements are for neonatal teratomas :

- A. Derived from 3 of the embryonic germ cell layers.
- B. May be found in gonads.
- C. More common in females.
- D. Half of them are malignant.

SECTION 4

MATCHING TYPE : MATCH THE ITEMS OF COLUMN A WITH THE OPTIONS IN COLUMN . EACH Q CARRIESS 3 MARKS

71. Match the following serum bilirubin levels with the clinical extent of jaundice in newborn :

Column A

- A. 5—7 mg/dl
- B. 10—12 mg/dl
- C. > 18 mg/dl

Column B

- 1. Only forehead
- 2. Head and Neck
- 3. Trunk and extremities above
elbow and knee
- 4. Extrimities below knee and elbow
but sparing palms and soles
- 5. Palms and soles.

A	
B	
C	

72. Match the nerve palsies with the nerve segments involved :

- A. Duchenne Erb
- B. Phrenic nerve
- C. Klumpke's

- 1. C₇, C₈, T₁
- 2. C₅, C₆, C₇
- 3. C₅, C₆
- 4. C₃, C₄, C₅
- 5. C₄, C₅, C₆

A	
B	
C	

73. Match the following gestations with approximate mean fetal weights (g) of normally grown baby :

- | | |
|-------------|--------|
| A. 16 weeks | 1. 50 |
| B. 20 weeks | 2. 100 |
| C. 24 weeks | 3. 300 |
| | 4. 400 |
| | 5. 700 |

A	
B	
C	

74. Match the following reflexes with the age of appearance (gestation in weeks):

- | | |
|----------------------------|----------|
| A. Pupil reaction to light | 1. 29-31 |
| | 2. 32-34 |
| B. Glabellar tap | 3. 33-36 |
| C. Traction response | 4. 34-37 |
| | 5. >37 |

A	
B	
C	

75. Match the following terms with their standard definitions :

- | | |
|------------------------------------|---|
| A. Appropriate for Gestational age | 1. Birth weight below 25 th centile but above 10 th centile |
| B. Small for Gestational age | 2. Birth weight below 10 th centile |
| C. Large for Gestational age | 3. Birth weight between 10 th and 90 th centile |
| | 4. Birth weight between 25 th and 75 th centile |

A	
B	
C	

5. Birth weight above 90th centile

Section 5

ASSERTION – REASON type

Each question carries 1 mark

If assertion and reason both are correct & reason explains assertion	KEY	A
Assertion and Reason both are correct & reason does not explain assertion	KEY	B
Assertion is true but reason is false	KEY	C
Assertion is false but Reason is true in itself	KEY	D
Both assertion and reason are not true	KEY	E

1. The neonates with sickle cell disease are asymptomatic **because** large amount of fetal hemoglobin reduce the rate of polymerization of HbS and thereby sickling of red blood cells.
2. The pneumomediastinum in newborn can lead to dangerous cardiovascular compromise **because** Pneumopericardium is frequently associated with Pneumomediastinum in newborns.
3. The fetus during intrauterine life has high hemoglobin levels **because** hypoxic environment leads to increased synthesis of adult hemoglobin which has a high oxygen affinity.
4. The glucose requirements are high in neonates **because** Brain size in neonates is small in relation to their body size.
5. Rebound hypoglycemia is observed after exchange transfusion in newborn if acidcitrate-dextrose (ACD) blood is used **because** ACD – blood causes an increase in plasma insulin secretion which then decreases slowly.

Section 6.

. THIS SECTION HAS % BONUS MARKS without any negative markings

A. Write in full the following abbreviations.

INAP _____

FBNC _____

NRP-FGM _____

NSSK _____

HBB-ECEB _____

B. Write following :

Worlds AIDS day _____

Hand washing day _____

Newborn celebration week _____

Titles of 2 NNF publication _____

THANKS FOR YOUR TIME

