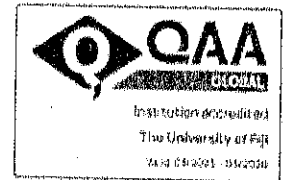


The University of Fiji

(An Entity of Arya Pratinidhi Sabha of Fiji)



UMANAND PRASAD SCHOOL OF MEDICINE & HEALTH SCIENCES

2025

FINAL EXAMINATION PAPER

PAED 504: PAEDIATRICS

Important Instructions to Students:

1. Read the questions, instructions carefully and answer the questions.
2. You are allowed an **extra 10 minutes reading time** (during this time, you are not allowed to write with pen) and **180 minutes (3 Hours) to complete this paper**.
3. Silent, non-programmable calculators are allowed but not supplied.
4. Write all your answers in the answer booklet provided. Write your name, course code and student identification number in the answer booklet and in the attendance sheet.
5. This paper contains three (3) sections A, B, and C. All questions are compulsory to answer.
6. Write all your answers legibly. The marker has the right to award zero for answers that are not legible.
7. This is a **Closed Book Examination**. The University views plagiarism, cheating and dishonest practice as serious offences and if found, offenders are penalized.

Examination Paper Content (Format):

<u>Section</u>	<u>Question</u>	<u>Content</u>	<u>Marks</u>	<u>Suggested Time</u>
A	1-50	Multiple Choice Questions	50	90 minutes
B	51-70	Simple Answer Questions	20	36 minutes
C	71-100	Case Scenario Questions	30	54 minutes
		TOTAL	100	180 Minutes

SECTION A: MULTIPLE CHOICE QUESTIONS (50 x1=50 marks). Answer sheet provided.

1. What sequence correctly describes the developmental transformation leading to the formation of the gastrula during early embryogenesis?
 - A. From morula → blastocyst → gastrula, with the formation of the primitive streak and notochord.
 - B. From blastocyst → morula → gastrula, starting with the formation of the notochord.
 - C. From trophoblast → blastocoel → epiblast, initiating the formation of the primitive streak.
 - D. From hypoblast → yolk sac → epiblast, culminating in the formation of the amniotic cavity.
 - E. From zygote → gastrula → blastocyst, ending with the bilaminar disk.
2. During which period is the human organ system most vulnerable to external disturbances such as teratogens (e.g., psychoactive drugs)?
 - A. Fetal period
 - B. Embryonic period
 - C. Organogenesis
 - D. Gestation
 - E. Perinatal period
3. Which developmental event occurs earliest in gestation?
 - A. End of embryonic period and beginning of fetal period
 - B. Appearance of endoderm and ectoderm (bilaminar embryo)
 - C. Neural folds fuse, creating a defined human-like shape
 - D. Distinguishable external genitalia
 - E. Appearance of primitive reflexes
4. What developmental concern should pediatricians and parents consider when an infant does not reciprocate social interaction (language and movement) by 4 months?
 - A. Normal developmental variation
 - B. Risk of speech delay
 - C. Sign of advanced cognitive skills
 - D. Premature motor development
 - E. Risk of autism spectrum disorder
5. What is the recommended first step in managing hyperthermia in newborns?
 - A. Use cooling devices
 - B. Give intravenous fluids
 - C. Adjust environmental conditions
 - D. Turn off the incubator immediately
 - E. Administer antipyretics
6. In neonates with hypoxic-ischemic encephalopathy (HIE), what is the correct application of cool packs based on body temperature?
 - A. 34.5–35°C: One pack across chest
 - B. Above 36°C: Two packs under shoulders and across chest
 - C. Below 34.5°C: Remove all cool packs
 - D. 35–36°C: Two packs under shoulders and across chest
 - E. Below 33°C: Add more cool packs

7. Which characteristic best distinguishes subtle seizures from other neonatal seizure types?
- A. Subtle seizures often include transient eye deviations, nystagmus, and blinking.
 - B. Clonic seizures are typically bilateral and symmetric.
 - C. Tonic seizures usually involve persistent horizontal eye deviation.
 - D. Subtle seizures primarily involve generalized tonic limb extensions.
 - E. Myoclonic seizures present as rhythmic jerks of extremities.
8. Which feature is most indicative of prematurity prior to 34 weeks gestation?
- A. Large clitoris and prominent labia minora
 - B. Presence of lanugo over the body
 - C. Reddened and thin skin
 - D. Absence of breast tissue
 - E. Short, soft nails
9. What is likely to occur if milk removal from the breast is ineffective during the second stage of lactogenesis?
- A. Engorgement results in firm, overfilled, and painful breasts.
 - B. Increased milk production optimizes feeding efficiency.
 - C. Diminished pain due to adaptive hormonal responses.
 - D. Decreased need for consistent breastfeeding.
 - E. Spontaneous involution of mammary glands
10. Which statement is correct regarding protein characteristics of milk and formula types?
- A. Cow's milk contains β -lactoglobulin, while human milk predominantly contains α -lactalbumin.
 - B. Soy formula is used for galactosemia but provides superior nutrition compared to breast milk.
 - C. Protein hydrolysate formulas are lactose-free but inappropriate for infants with dairy allergy.
 - D. Amino acid formulas contain only extensively hydrolyzed proteins.
 - E. Human milk and cow's milk have the same whey-to-casein ratio.
11. A 1-year-old is being evaluated for dehydration. Which of the following assessments should you prioritize?
- A. Skin turgor and capillary refill
 - B. Bowel sounds
 - C. Poor appetite
 - D. Urinary output
 - E. Respiratory rate and effort
12. Which of the following conditions is most characteristically associated with polyhydramnios during pregnancy?
- A. Hirschsprung disease
 - B. Esophageal atresia
 - C. Anorectal malformation
 - D. Duodenal atresia
 - E. Meconium ileus

13. A neonate with jaundice, pale stools, and dark urine is most likely to have which of the following?
- Physiologic jaundice
 - Breast milk jaundice
 - Biliary atresia
 - Gilbert syndrome
 - Crigler–Najjar syndrome
14. A 2-month-old infant came to the emergency room with fever for 2 days, emesis, a petechial rash, and increasing lethargy. In the ambulance he had a 3-minute generalized tonic-clonic seizure that was aborted with lorazepam. He does not respond when blood is drawn or when an IV is placed, but he continues to ooze blood from the skin puncture sites. On examination, his anterior fontanelle is open and bulging. His CBC shows a WBC of 30,000 cells/ μ L with 20% band forms. Which of the infant's problems listed below is a contraindication to lumbar puncture?
- Uncorrected bleeding diathesis.
 - Bulging fontanelle
 - Dehydration
 - History of recent seizure
 - Significantly elevated WBC count consistent with bacteraemia.
15. A 3-year-old child presents with fever, headache, and seizures. CSF analysis shows lymphocytic pleocytosis, normal glucose, and mildly elevated protein. The most likely diagnosis is:
- Bacterial meningitis
 - Viral encephalitis
 - Tuberculous meningitis
 - Fungal meningitis
 - Intracranial abscess
16. A 6-year-old child presents with facial puffiness, hematuria, and hypertension. Lab results show low complement C3 and ASO titer positive. What is the mainstay of management?
- High-dose corticosteroids
 - Plasmapheresis
 - Supportive management with salt restriction and Nifedipine
 - Immunosuppressants
 - Antibiotic prophylaxis for 6 months
17. A 7-year-old presents with recurrent wheezing, nocturnal cough, and exercise intolerance. Which of the following best supports a diagnosis of asthma?
- Chest X-ray showing hyperinflation
 - Elevated eosinophil count
 - Positive response to bronchodilator therapy
 - History of pneumonia
 - Low serum IgA
18. Which of the following is most predictive of poor long-term asthma control?
- Early onset before age 5
 - Atopic dermatitis in infancy
 - Use of inhaled corticosteroids
 - Seasonal variation in symptoms
 - Parental smoking

19. Which immunologic mechanism underlies allergic rhinitis?
- A. Type I hypersensitivity mediated by IgE
 - B. Type II hypersensitivity involving complement
 - C. Type III immune complex deposition
 - D. T-cell mediated delayed hypersensitivity
 - E. Autoantibody production against nasal epithelium
20. A 2-year-old with chronic pruritic rash on flexural surfaces. What is the first-line treatment for atopic dermatitis?
- A. Oral antihistamines
 - B. Systemic corticosteroids
 - C. Topical calcineurin inhibitors
 - D. Topical corticosteroids and emollients
 - E. Antibiotics
21. Which medication is recommended for long-term control in moderate persistent asthma?
- A. Short-acting beta agonist
 - B. Oral corticosteroids
 - C. Inhaled corticosteroids
 - D. Leukotriene receptor antagonist
 - E. Antibiotics
22. Which of the following essential newborn care practices encourage early breastfeeding initiation?
- A. Immediate & thorough drying of the baby.
 - B. Properly timed cord clamping & cutting.
 - C. First embrace of the mother & baby.
 - D. Non-drug pain relief for the mother before offering anesthesia.
 - E. Let the mother recover and immediately do the bathing for the baby.
23. What is the most common cause of death during treatment for Leukemia, based on Fiji and global pediatric statistics?
- A. Relapse during maintenance
 - B. Hypersplenism
 - C. No remission after induction
 - D. Gram-negative sepsis
 - E. Hemorrhagic complications
24. Which statement best describes the role of tumor suppressor genes in cancer development?
- A. They regulate cell growth and promote apoptosis, preventing uncontrolled cell proliferation.
 - B. They are directly responsible for activating oncogenes that cause cancer.
 - C. They enhance immune surveillance mechanisms to eliminate cancer cells.
 - D. They prevent DNA repair, leading to accumulation of mutations.
 - E. They increase transcription of angiogenesis-related genes.

50. Which demographic group is most at risk for ARF in Fiji?

- A. Children aged 5–14 years
- B. Adults >40 years
- C. Infants <5 years
- D. Teenagers 15–19 years
- E. Elderly >65 years

SECTION B: SHORT ANSWER QUESTIONS (20 x 1 = 20 marks)

Write all your answers in the answer booklet provided.

51-54. What is the pathological basis and clinical assessment of a child with Sydenham Chorea? 4marks

55-56. How would you clinically diagnose a Marasmic child? 2marks

57-60. How to manage a Severe Acute Complicated Malnourished child? 4marks

61-64. How is neonatal jaundice assessed clinically using Kramer's rule classification? 4marks

65-66. How can a clinician assess whether a newborn baby is being properly ventilated during resuscitation? 2marks

67-70. What is the pathological basis for managing an asphyxiated newborn baby with therapeutic hypothermia ("cooling effect")? 4 marks

SECTION D: CASE SCENARIOS QUESTIONS (30 marks)

Write all your answers in the answer booklet provided.

Case 1-(71-80): You are called by a midwife to attend and assist with a **neonatal resuscitation** due to infant of **diabetic mother** and **meconium-stained amniotic fluid**.

Question 1. What additional information are you going to ask and what should you prepare/do next after receiving the call? 3 marks

Question 2. The baby is born and is non-vigorous. What are the next initial steps to do? 3 marks

Question 3. The baby became active, pink, and breathing appropriately after 5 minutes. What are the essential newborn care and post resuscitative actions should the baby received? 4 marks

Case 2-(81-90):- A 13-day-old baby girl presents to the IMCI clinic at a health center with **low weight gain** and **jaundice**.

Question 1. According to IMCI, how should this newborn with low weight gain be classified? 2 marks

Question 2. How does IMCI classify jaundice in a 3-day-old neonate? 2 marks

Question 3. What immediate management should be given at the health center before referral if severe jaundice is suspected? 3 marks

Question 4. What feeding advice should be given to the mother of this neonate with low weight gain? 3 marks

Case 3-(91-100): A 5-year-old child is brought to the accident and emergency unit with **watery diarrhea and vomiting** for 3 days.

The mother reported **poor oral intake, sunken eyes, and no urine** output since yesterday. On examination, the child is **lethargic, severely dehydrated, has dry mucous membranes, poor skin turgor** (skin pinch goes back very slowly), **weak thready pulse, and deep labored breathing**. Capillary blood glucose (CBG) = 2.5 mmol/L.

Question 1. What other clinical features you might expect to find in this case? 2 marks

Question 2. What is the cause and pathogenesis of the above case? 2 marks

Question 3. What are the medical treatments of the above case? 3 marks

Question 4. What complications should be closely monitored during treatment of this child? 3 marks

