



**AMREF INTERNATIONAL UNIVERSITY
SCHOOL OF MEDICAL SCIENCE
DEPARTMENT OF REHABILITATION MEDICINE
BACHELOR OF SCIENCE IN PHYSIOTHERAPY
END OF SEPT-DECEMBER 2024 TRIMESTER EXAMINATIONS**

UNIT CODE: PHT 136

**UNIT NAME: Growth and development (special exam)
Upgrading cohort**

DATE: Day/ Date/ AUGUST

TIME: TWO HOURS

START: 0:00 STOP : 0:00

INSTRUCTIONS (physical exams)

- 1. Do not write on this question paper**

(Marks and questions distribution as per program curriculum.)

INSTRUCTIONS (Online examinations)

1. This exam is marked out of 70 marks
2. This Examination comprises 3 Sections
3. This online exam shall take 2 Hours
4. Late submission of the answers will not be accepted
5. Ensure your web-camera is on at all times during the examination period
6. No movement is allowed during the examination
7. Idling of your machine for 5 min or more will lead to lock out from the exam
8. The Learning Management System (LMS) has inbuilt integrity checks to detect cheating
9. Any aspect of cheating detected during and or after the exam administration will lead to nullification of your exam
10. In case you have any questions call the invigilator for this exam on Tel. 0705833434 and or the Head of Department on Tel 0720491032
11. For adverse incidences please write an email to: amiu.examinations@amref.ac.ke

SECTION A; MCQ's (30Mks)

1. During embryogenesis, the following structures develops from the ectoderm
 - A) Skin
 - B) Muscles
 - C) Brain
 - D) Heart
2. In the PT context, which among the following developmental milestones is important when assessing gross motor development in infants
 - A) Rolling over
 - B) Recognizing faces
 - C) Babbling
 - D) Grasping small toys
3. What age range is typically associated with increased activity level and rapid development in motor skills, making it crucial for physical therapists to focus on balance and coordination training?
 - A) Toddlerhood (1-3 years)
 - B) Preschool age (3-5 years)
 - C) Early childhood (6-12 years)
 - D) Adolescence (13-18 years)
4. According to Erikson's psychosocial theory, which stage of development would a physical therapist likely focus on when working with adolescence patient with sports injury in order to recognize meaningful improvements with regards to sport performance/physical activity?
 - A) Autonomy vs. Shame and Doubt
 - B) Identity vs. Role Confusion
 - C) Generativity vs. Stagnation
 - D) Integrity vs. Despair
5. Which developmental reflex is important for protective reactions in infants and typically becomes integrated around 9-12 months, allowing for more advanced motor skills like sitting and standing?
 - A) Plantar Grasp Reflex
 - B) Parachute Reflex

C) Rooting Reflex

D) Galant Reflex

6. The most important PT goal while working on an older adult is to promote independence in daily living through improvement/maintenance of fine motor skills. Which among the following activities would be the most appropriate while addressing this goal?

A) Rising from a chair without assistance

B) Using a fork and knife to eat

C) Walking up and down stairs

D) Kicking a soccer ball

7. At what developmental stage do children typically begin to master gross motor skills such as running and jumping?

A) Infancy (0-1 year)

B) Toddlerhood (1-3 years)

C) Early Childhood (3-6 years)

D) Middle Childhood (6-12 years)

8. Which of the following types of toys is most beneficial for improving gross motor skills in toddlers during physical therapy sessions?

A) Puzzles

B) Building blocks

C) Soft balls

D) Art supplies

9. Play-based therapy in pediatric physical therapy primarily aims to:

A) Limit the child's physical activity

B) Increase the child's motivation and engagement in therapy

C) Focus solely on therapeutic exercises

D) Replace traditional therapy techniques

10. Which of the following physiological changes is most commonly associated with aging?

A) Increased muscle mass

B) Decreased bone density

C) Enhanced cardiovascular efficiency

D) Improved flexibility

11. Gross motor skills are very relevant when physical therapists are dealing with children with developmental delays. Which of the following would be a major focus for PT's while treating such children?

- A) Hand-eye coordination for writing
- B) Strengthening muscles for walking and running through play
- C) Improving dexterity for using scissors and painting
- D) Training for dressing independently

12. A 10 month old infant is admitted to the wards with complications of severe traumatic brain injury following a fall (when he was 2 months old). On examination the PT notices persistence of the Asymmetrical Tonic Neck Reflex (ATNR). This persistence may interfere with which motor skill in infants, making it a focus of PT intervention?

- A) Walking independently
- B) Crawling and rolling
- C) Reflexive sucking
- D) Fine motor coordination

13. Aging affects both motor and fine motor skills. Which of the following best describes the impact of aging on gross motor skills?

- A) Increased strength and decreased coordination
- B) Decreased balance and flexibility
- C) No significant changes
- D) Enhanced cardiopulmonary endurance and agility

14. Which of the following is a common fine motor skill that may degrade with age?

- A) Running
- B) Writing
- C) Jumping
- D) Climbing

15. Gross and fine motor skills performance is directly related to independent ADL performance in older adults. Which of the following interventions is most effective in maintaining these skills in old age?

- A) Increasing sedentary activities
- B) Engaging in regular physical exercise
- C) Avoiding all forms of physical activity
- D) Focusing solely on cognitive training

16. During a certain developmental stage, young children can sometimes exhibit uncontrolled anger and tend to throw tantrums anyhow. Which of the following strategies can help improve emotional control in children?

- A) Ignoring them

- B) Encouraging expression of feelings through words
- C) Punishing emotional outbursts
- D) Limiting social interactions

17. The development of executive functions, which include cognitive processes such as working memory, cognitive flexibility, and inhibitory control, begins to emerge around what age?

- A) 2 years
- B) 4 years
- C) 6 years
- D) 8 years

18. At what age do children typically begin to understand and express basic emotions such as happiness, sadness, and anger?

- A) 6 months
- B) 12 months
- C) 2 years
- D) 4 years

19. According to Piaget's theory of cognitive development, which cognitive skill is primarily developed during the preoperational stage?

- A) Logical reasoning
- B) Abstract thinking
- C) Symbolic thought
- D) Conservation

20. The ability to manage and respond to emotional experiences has been shown to get better with age. Which developmental period is associated with marked emotional regulation?

- A) Infancy
- B) Early childhood
- C) Adolescence
- D) Adulthood

21. As children advance in their growth & development, they begin to gain control of their bowel and bladder movements. At what age do most children typically gain daytime bladder control?

- A) 12 months
- B) 18 months
- C) 3 years
- D) 6 years

22. Children typically exhibit certain behaviors which shows that they are ready to be toilet trained. Which of the following is a common sign that a child is ready to begin toilet training?

- A) Frequent wetting of the bed
- B) Expressing discomfort with soiled diapers
- C) Lack of interest in potty training
- D) Continuing to play even with dirty diapers

23. Even after gaining their bladder control in their younger years, occasionally adults also do bed wet while sleeping at night. This involuntary loss of urine during sleep is termed as?

- A) Nocturnal enuresis
- B) Diurnal enuresis
- C) Urinary incontinence
- D) Urgency

24. In adults, which of the following factors can contribute to urinary incontinence?

- A) High fluid intake
- B) Lack of exercise
- C) Pregnancy and childbirth
- D) Consuming adequate fiber

25. Which of the following best describes gross motor skills?

- A) The ability to manipulate small objects with precision
- B) The use of large muscle groups for movements such as walking and jumping
- C) The coordination of hand-eye movements
- D) The ability to perform tasks that require visual acuity

26. What is a common consequence of prolonged immobility on fine and gross motor skills in patients?

- A) Enhanced coordination with compromised balance
- B) Decreased muscle tone and strength
- C) Improved muscle bulk with decreased range of motion
- D) Decreased cardio pulmonary function

27. Comprehensive sex education programs that include discussions about emotional intimacy and consent are most effective when introduced at what stage?

- A) Preschool
- B) Elementary school
- C) Middle school
- D) High school

28. Which factor plays a significant role in shaping an individual's understanding of sexual expression and consensual intimacy during development?

- A) Genetic predisposition
- B) Cultural and societal influences
- C) Random chance
- D) Economic status

29. During which stage of development do adolescents typically start to form romantic relationships and engage in consensual intimacy?

- A) Early childhood
- B) Middle childhood
- C) Adolescence
- D) Young adulthood

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SECTION B; SHORT ANSWER QUESTIONS (20 Mks)

(Answer ALL questions)

31. A 6month-old baby was brought to a pediatric ward by a good Samaritans after being discovered half buried in the forest. He's been diagnosed with nonorganic failure to thrive due to neglect, malnutrition and abuse among other list of problems. He cannot be held or comforted by nurses, and is physically and emotionally depleted based on age. (10 Marks)

- i. Briefly explain how the team of healthcare providers would approach this case, with special emphasis on
- ii. Highlight the special focus of a PT in such a case as you briefly outline what PT examination will entail

32. A 8 month old baby boy; born with spina bifida has been referred to PT for evaluation and treatment. The mother reports that she has never seen him move any of his lower limbs since birth. He is also unable to sit unsupported (10 Marks).

- i. Briefly explain how the understanding of embryological development contributes to the assessment and treatment of spina bifida and other congenital musculoskeletal disorders in physical therapy
- ii. Outline how knowledge on development and growth will apply in this case as you briefly highlight the PT's focus with regards to examination and treatment

SECTION C; LONG ESSAY QUESTIONS. (20 Mks)

ANSWER ANY TWO QUESTIONS

33. The developmental stages significantly impact patient care in physical therapy (PT) in several ways. Discuss in detail how knowledge in human developmental stages and growth can be utilized in PT practice (10 marks).

34. Describe the pattern of fine motor skills associated with age as you explain briefly how physical therapy may be utilized in such cases (10 Marks)

35. Describe the role of primitive reflexes in early motor development and their relevance in physical therapy assessment and intervention (10 Marks)