



**THE MOMBASA POLYTECHNIC UNIVERSITY COLLEGE**

**(A Constituent College of JKUAT)**  
(A Centre of Excellence)

# **Faculty of Applied & Health Sciences**

DEPARTMENT OF MEDICAL SCIENCES

**DIPLOMA IN MEDICAL LABORATORY SCIENCES (DMLS 12M)**

AML 2140: HUMAN ANATOMY & PHYSIOLOGY I

**SPECIAL/SUPPLEMENTARY EXAMINATION**

**SERIES: OCTOBER 2012**

**TIME ALLOWED: 3 HOURS**

**Instructions to Candidates:**

You should have the following for this examination

- *Answer Booklet*

This paper consists of **THREE** sections **A, B & C**

Section A has multiple choice questions. Answer all questions

Circle the correct response and avoid guess work half a mark will be deducted for any wrong response

Section B has short essay questions. Answer ALL.

Answer THREE questions in section C

Write your answers in the booklet provided

This paper consists of SEVEN printed pages

**SECTION A (ANSWER ALL QUESTIONS – 1 MARK EACH)**

1. The following are the key functions of the eyelids except
  - a) Protection
  - b) Lacrimation
  - c) Partial eye view
  - d) Sieving
  
2. Non Keratinised stratified epithelium is found in the following areas:
  - a) Vagina
  - b) Anus
  - c) Mouth
  - d) Conjunctiva
  
3. Most cells are capable of secreting the following substances as intermediaries, except:
  - a) Heparin
  - b) Intrinsic factor
  - c) Serotorium
  - d) Histamine
  
4. The following is important for blood glucose control except:
  - a) Growth hormone
  - b) Insulin
  - c) Glucagon
  - d) Glycogen
  
5. The following are functions of the skin except?
  - a) Thermoregulation
  - b) Reflection
  - c) Heat absorption
  - d) Insulation
  
6. Arcolar tissue is located mainly in the following areas, except:
  - a) Muscles
  - b) Pubic areas
  - c) Blood vessels
  - d) Alimentary canal
  
7. Connective tissue contains the following cells, except?
  - a) Fibroblasts
  - b) Mast cells
  - c) Macrophages
  - d) Tendons

8. The following are types of cartilage, except?
- Fibrocartilage
  - Elastic fibrocartilage
  - Hyaline
  - Chondro cartilage
9. The following is not a base that form DNA:
- Adenine
  - Cytosine
  - Phosphate group
  - Guanine
10. One of the following enzymes is responsible for melanin synthesis:
- Cytokinose
  - Tyrosinase
  - Aminotransforases
  - Carbonyl amino
11. The following are classifications of bones according to shape except:
- Long bones
  - Tyrosine
  - Dense borns
  - Irregular bones
12. The following factors affect cell division:
- Presence of food
  - Growth medium
  - Presence of chemicals
  - Enzymes
13. The following hormone is responsible for ovulation:
- Progesterone
  - LH
  - FSH
  - Corpus luteum
14. One of the following statements is true:
- Every cell in the body has a nucleus
  - Cells are said to mutate if their genetic make-up is altered in any way
  - Keratinized stratified epithelium is found on wet surfaces
  - Ciliated epithelium is found lining the urethra
15. The following is a site for energy transduction in a cell:
- Ribosome
  - Mitochondria
  - Nucleus
  - Cell membrane
16. The following chemical compound is a universal vasodilator and major regulator of arterial resistance:
- Rennin

- b) Angiotensinogen
- c) Nitric oxide
- d) ANP

17. The following statement is true:

- a) Sebum and tears contain chemicals that kill microbes
- b) Skeletal muscles are found in the gastrointestinal track
- c) Hair is a living material
- d) The optimum blood PH is 7.0

18. The following organelle is responsible for separation of chromosomes of chiasma during meiosis:

- a) Golgi apparatus
- b) Centrioles
- c) Mitondria
- d) Ribosome

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20. Which of the following events occur at the teloplase:

- a) Cytokines
- b) Chromosome separation
- c) Attachment of centromeres
- d) Nuclear envelop disintegration

21. One of the following tissue is found in the kidney tubules:

- a) Stratified collumnar
- b) Squamous epithelium
- c) Simple cuboidal epithelium
- d) Stratified cuboidal

22. Columnar epithelium is important in production of one of the following:

- a) Sodium
- b) Magnesium
- c) Potassium
- d) Mucus

23. The following are examples of macrophages:

- a) Kupffer cells
- b) Most cells
- c) Bacteriophage
- d) Fibroblast

24. The reticular cells secretes the following substance:

- a) Reticulin strands

- b) Amylase
- c) Lipase
- d) Trypsin

25. One of the following statement is true:

- a) Plasma cells are derived from B-lymphocytes
- b) Plasma cells are derived from T – lymphocytes
- c) Urinary bladder is made up of cuboidal cells
- d) Bone is a fibrous tissue only

26. Testosterone is responsible for the following process:

- a) Sex determination
- b) Proliferation of the ovary
- c) Development of the testis in male
- d) Spermatogenesis

27. Hyaline tissue is found on:

- a) Surfaces of bones
- b) Nails
- c) Vertebral column
- d) Skin

28. The following hormone is important in the maturation of the follicles in female ovary:

- a) GRH
- b) FSH
- c) LH
- d) Progesterone

29. Deficiency of iron in the body results in:

- a) Anemia
- b) Hypothyroidism
- c) Thrombocytopenia
- d) Sickle cell anemia

30. The following are permanent cells of the CNS:

- a) Neurons
- b) Skeletal and cardiac muscle
- c) Fibroblasts
- d) Osteoblasts

31. Smooth muscles occurs within the following organs:

- a) Heart
- b) Lungs
- c) GIT
- d) Vagina

32. Intercalated discs are found in the following tissues:

- a) Kidney cell tissues
- b) Cardiac tissue
- c) Pericardium
- d) Smooth muscle

33. The following muscle are found in the cranial cavity:

- a) Hypothalamus
- b) Brain
- c) Heart
- d) Lungs

34. The following are internal body factors in the host that increase susceptibility to tumours:

- a) Race
- b) Diet
- c) Age
- d) Chemicals

35. The following are examples of granulocytes except:

- a) Neutrophils
- b) Monocytes
- c) Eosionophils
- d) Basophils

36. Which of the following is function of adipose tissue:

- a) Shock absorption
- b) Attachment
- c) Insulation
- d) Production of fats

37. Cartilage is made up of the following cells:

- a) Chondrocytes
- b) Rbcs
- c) Wbcs
- d) Chondroblasts

38. Elastic cartilage is found in the following parts:

- a) Joint
- b) Mouth palate
- c) Stomach
- d) Pinna

39. The following are the types of cells that form a bone except:

- a) Osteoclasts
- b) Osteocytes
- c) Chondroblasts
- d) Osteoblasts

40. Myelin sheath is secreted in the following cells:

- a) Epindymal

- b) Satellite cells
- c) Osteocytes
- d) Oligodendrocytes

**SECTION B (Answer ALL questions)**

1. Describe how hearing and balance is achieved in man **(20 marks)**
2. Discuss how homeostasis is achieved following a blood vessel injury **(20 marks)**
3. With proper illustration describe how a nerve transmission occurs **(20 marks)**