

**KISII UNIVERSITY**  
**SPECIAL EXAMINATIONS**  
**BACHELOR OF SCIENCE IN PUBLIC HEALTH**  
**PHES 124: Human Anatomy and Physiology**

**SECTION A: MULTIPLE CHOICE QUESTIONS**

1. The most abundant cell type in the skin is
  - A. Melanocyte
  - B. Nerve cell
  - C. Langerhans cell
  - D. Merkel cell
  - E. Keratinocyte
2. Sebaceous glands in the skin produce
  - A. Milk
  - B. Oil
  - C. Sweat
  - D. Cerumen
  - E. Sebum
3. Skin colour is determined by the following pigment
  - A. Melanin
  - B. Carotene
  - C. Hemoglobin
  - D. Bilirubin
  - E. All of the above
4. The hard outer layer of skin is rich in a protein called
  - A. Myelin
  - B. Melanin
  - C. Albumin
  - D. Globulin
  - E. Keratin
5. Which of the following is a correct match?
  - A. Short bone-wrist
  - B. Irregular bone-sternum
  - C. Long bone-tibia
  - D. Flat bone-vertebra

E. Hollow bone-femur

6. Which of the following bones articulates with the femur?

- A. Pubic crest
- B. Ischial tuberosity
- C. Patella
- D. Fibula
- E. Talus

7. Which bone of the upper limb corresponds with the femur in the lower limb?

- A. Radius
- B. Ulna
- C. Scapula
- D. Clavicle
- E. Humerus

8. The shoulder joint is classified as the following type of joint

- A. Fibrous joint
- B. Secondary cartilaginous joint
- C. Primary cartilaginous joint
- D. Ellipsoid joint
- E. Synovial joint

9. The cerebral hemispheres are divided into the following number of lobes

- A. 2
- B. 3
- C. 5
- D. 4
- E. 6

10. The photoreceptor in the eye is located in the

- A. Cornea
- B. Lens
- C. Retina
- D. Choroid
- E. Aqueous humor

11. The structures of the ear include all the following except

- A. Tympanic membrane
- B. Cochlea
- C. Semicircular canals
- D. Middle ear
- E. Olfactory epithelium

12. The sympathetic nervous system mediates the following states except

- A. Fight
- B. Fright
- C. Flight
- D. Escape
- E. Digestion

13. The brainstem includes the following parts except

- A. Medulla oblongata
- B. Midbrain
- C. Pons
- D. Cerebellum
- E. Temporal lobe

14. Which gland in the body secretes the hormone melatonin?

- A. Skin
- B. Pancreas
- C. Pineal
- D. Ovaries
- E. Thymus

15. The thyroid gland

- A. Is located anteriorly in the neck
- B. Secretes hormones involved in renal functioning
- C. Produces insulin
- D. Is important for milk production
- E. Is not related to appetite

16. Insulin is produced by the following cells in the pancreas

- A. Alpha
- B. Beta
- C. Delta
- D. Gamma
- E. PP

17. Calcium absorption in the gut is promoted by the following hormone

- A. Calcitonin
- B. Thyroxine
- C. Vitamin D3
- D. Insulin
- E. Glucagon

18. The following are found in the thorax except

- A. Mediastinum
- B. Lungs
- C. Heart
- D. Thymus
- E. Thyroid

19. The following chambers of the heart are correctly matched to the great vessels

- A. Right atrium-brachiocephalic trunk
- B. Right ventricle-pulmonary vein
- C. Left atrium-pulmonary vein
- D. Left ventricle-vena cava
- E. Left auricle-aorta

20. The following is not a function of the lymphoreticular system

- A. Immune function
- B. Transport function
- C. Production of new blood cells
- D. Removal of pathogens and worn-out cells from blood
- E. Synthesis of albumin

21. The following is not an organ of the lymphoreticular system

- A. Lymph nodes
- B. Spleen
- C. Liver
- D. Bone marrow
- E. Thymus

22. The wall of the gut includes the following layers except

- A. Mucosa
- B. Submucosa
- C. Muscularis externa
- D. Visceral peritoneum
- E. Tunica media

23. The following are accessory glands of the gastrointestinal tract except

- A. Submandibular gland
- B. Exocrine pancreas
- C. Endocrine pancreas
- D. Liver
- E. Parotid gland

24. The following are related to the peritoneal cavity except

- A. Parietal peritoneum

- B. Visceral peritoneum
- C. Supracolic compartment
- D. Infracolic compartment
- E. Parietal pleura

25. The path of urine to the bladder is

- A. Renal calyces-renal pelvis-ureter-bladder
- B. Renal calyces-renal pelvis-urethra-bladder
- C. Renal pelvis-renal calyces-ureter-bladder
- D. Renal pelvis-renal calyces-urethra-bladder
- E. Renal tubules-renal pelvis-ureter-bladder

26. The kidney performs the following except

- A. Excretion of urea
- B. Reabsorption of sodium
- C. Reabsorption of water
- D. Production of erythropoietin
- E. Production of aldosterone

27. The following are parts of the internal male genitalia except

- A. Testes
- B. Prostate
- C. Seminal vesicles
- D. Epididymis
- E. Urethra

28. The following are parts of the internal female genitalia except

- A. Ovary
- B. Fallopian tubes
- C. Uterus
- D. Cervix
- E. Vulva

29. The bones of the pelvis include the following except

- A. Ischium
- B. Ilium
- C. Pubis
- D. Femur
- E. Sacrum

30. The following hormones have roles in reproductive functions except

- A. Testosterone
- B. Oestrogen

- C. Progesterone
- D. Luteinizing hormone
- E. Vitamin D

## SECTION B: SHORT ANSWER QUESTIONS

1. Identify 5 organelles of the human cell and state their function (10 marks)
2. List 5 functions of the skin in human beings (5 marks)
3. List 5 functions of the kidney in human beings (5 marks)
4. Name 5 lobes in the cerebral hemispheres indicating a function localized to each (10 marks)
5. Identify 5 organ systems of the human body and identify 1 disease of public health importance that affects each system listed (10 marks)