

1. Which one of the following is responsible for contraction at cellular level?

- A. Tendons
- B. Ligaments
- C. Joints
- D. Myosin
- E. Scapula

2. Which one of the following are tall and slender with oval-shaped nuclei located in the basal region, attached to the basement membrane?

- A. Columnar epithelium
- B. Stratified Epithelium
- C. Simple Epithelium
- D. Pseudo columnar epithelium
- E. Pseudostratified columnar epithelium

3. Which type of anemia can be caused by atrophic gastritis?

- A. Pernicious anemia
- B. Megaloblastic anemia
- C. Sickle cell anemia
- D. Aplastic anemia
- E. Plastic anemia

4. Which one of the following is the sum of tidal volume and inspiratory reserve volume?

- A. Vital capacity
- B. Minute respiratory volume
- C. Functional residual capacity
- D. inspiratory capacity (IC)
- E. Total lung capacity

5. In which type of anemia, is the defect in oxygen carrying protein?

- A. Pernicious anemia
- B. Megaloblastic anemia
- C. Sickle cell anemia
- D. Aplastic anemia
- E. Plastic anemia

6. Which one of the following are termed as unilateral?

- A. Left leg and right hand
- B. Right leg and left hand
- C. Left hand left leg and left shoulder
- D. Right hand and left foot
- E. Left hand right leg and left shoulder

7. At the apex of ventricular systole, which of the following describes the highest pressure that blood exerts on blood vessel walls?

- A. Systolic blood pressure
- B. Diastolic blood pressure
- C. Elevated Blood pressure
- D. Normal blood pressure
- E. Essential blood pressure

8. Which of the following values represent the amount of Partial pressure of carbon dioxide within the cell and in the interstitial fluid (in mm Hg) respectively?

- A. 50 mm Hg, 45 mm Hg
- B. 46 mm Hg, 45 mm Hg
- C. 45 mm Hg, 40 mm Hg
- D. 46 mmHg, 40 mmHg
- E. 45 mmHg, 42 mmHg

9. Which one of the following represents $HR \times \text{Stroke volume}$?

- A. Cardiac rhythms
- B. Cardiac cycle
- C. Cardiac output
- D. Cardiac input
- E. Cardiac arrhythmias



18. Which one of the following glands is located anatomically inferior to ribcage and posterior to belly on sides of the spine?

- A. Adrenal gland
- B. Submandibular gland
- C. Thyroid gland
- D. Parathyroid gland
- E. Prostate gland

19. Which one of the following belongs to the bones of lower limb?

- A. Humerus
- B. Radius
- C. Ulna
- D. Femur
- E. Mandible

20. Which of the following values represent the amount of Partial pressure of carbon dioxide Pulmonary blood and in the Alveolus (in mm Hg) respectively?

- A. 50 mm Hg, 45 mm Hg
- B. 46 mm Hg, 45 mm Hg
- C. 45 mm Hg, 40 mm Hg
- D. 46 mm Hg, 40 mm Hg
- E. 45 mm Hg, 42 mm Hg

21. Which of the following terms explains the reduction in space between two bones?

- A. Extension
- B. Flexion
- C. Abduction
- D. Pronation
- E. Dorsiflexion

22. Which branch of anatomy has its applications in understanding the cellular basis of life?

- A. Systemic anatomy
- B. Cytology
- C. Applied anatomy
- D. Cross sectional anatomy
- E. Regional anatomy

23. Which of the following terms explains the increase in space between two bones?

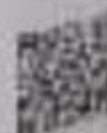
- A. Extension
- B. Flexion
- C. Abduction
- D. Pronation
- E. Dorsiflexion

24. Which one of the following is the correct amount of diurnal variation in the level of RBC in normal physiological state?

- A. 15%
- B. 0.05%
- C. 0.5%
- D. 5%
- E. 1.5%

25. Which of the following best describes a group of cells and related intercellular material that are specialized for one or more specific functions?

- A. Cells
- B. Organelles
- C. Fibers
- D. Ground substances
- E. Tissues



10. Which one of the following is the amount of air that a person expels forcefully from the lungs after taking a deep inspiration?

- A. Tidal volume
- B. Vital capacity
- C. Functional residual volume
- D. Total lung capacity
- E. Residual volume

11. Which one of the following regions of the human body is immediately inferior to the cervical region?

- A. Cervical region
- B. Thoracic region
- C. Abdominal region
- D. Pelvic region
- E. Inguinal region

12. In which type of cartilage, the proteoglycan aggregates are arranged in a narrow longitudinal column?

- A. Elastic cartilage
- B. Hyaline cartilage
- C. Fibrocartilage
- D. Articular cartilage
- E. Reticular cartilage

13. Which one of the following is a fibrous network composed of collagen, elastic fibers, and other extracellular components that include vasculature, sensory endings, hair follicles, and glands?

- A. Dermis
- B. Epidermis
- C. Subcutaneous tissue
- D. Hypodermis
- E. Basement membrane

14. Which of the following makes up between 65 and 80 percent of the volume of the cell?

- A. Proteins
- B. Water
- C. Electrolytes
- D. Lipids
- E. Carbohydrates

15. Which branch of anatomy is best for understanding various systems of the human body?

- A. Histology
- B. Gross anatomy
- C. Embryology
- D. Systemic anatomy
- E. Regional anatomy

16. Which of the following structures is made up of a lipid bilayer with proteins embedded in it and carbohydrates sandwiched between it?

- A. Cell Wall
- B. Cell Membrane
- C. Cell Envelope
- D. Cell capsule
- E. Cell spore

17. Which one of the following is responsible for the integrity of the cell?

- A. Cell Wall
- B. Cell Envelope
- C. Cell capsule
- D. Cell Membrane
- E. Cell spore

36. Which one of the following enzymes which present in stomach?
- Pepsin
 - Albumin
 - Creatinine
 - Amylase
 - Trypsin
37. Which one of the following serves both as the repository of genetic information and as the cell's control center?
- Ribosome
 - Mitochondria
 - Golgi bodies
 - Nucleus
 - Vacuoles
38. From which one of the following the calcitonin is released?
- Pituitary gland
 - Thyroid gland
 - Adrenal gland
 - Ovaries
 - Testes
39. Humans contain which of the following types of vitamin C?
- L-Ascorbic Acid
 - D-Ascorbic acid
 - L-ascorbic acid
 - Glucosonic acid
 - Citric acid
40. Which one of the following are soluble in 70 to 80% ethanol but are insoluble in water and absolute alcohol?
- Prolamins
 - Globins
 - Histones
 - Proteins
 - Albuminoids
41. Which one of the following is the least probable cause of bleeding?
- Decrease in calcium
 - Thrombocytopenia
 - Deficiency of coagulation factor
 - Deficiency of white blood cells
 - Deficiency of fibrin
42. Which one of the following enzymes being about a transfer of functional group such as phosphate amino, acyl, methyl, from one molecule to another molecule?
- Ligase
 - Urase
 - Transferase
 - Reductase
 - Oxidase
43. Which one of the following is Association of multiple polypeptides, but not found in all proteins?
- Primary structure
 - Secondary structure
 - Quaternary structure
 - Tertiary structure
 - Complex primary structure
44. Which one of the following is not the content of bile juice composition?
- Water
 - Cholesterol
 - Albumin and globulin
 - Bile salts
 - Bilirubin



26. From which class does Streptococcus pyogenes belong to?

- A. Bacilli
- B. Diplococci
- C. Streptococci
- D. Vibrio
- E. Staphylococci

27. What one of the following is a secretion of human skin having waxes. It helps skin to be moist and fatty.

- A. Sebum
- B. Saliva
- C. Mucus
- D. Tears
- E. Sweat

28. Which of the following describes how much bile juice is released daily by human duodenal cells and hepatocytes?

- A. 740ml - 1500ml
- B. 500 ml - 1000ml
- C. 30 ml - 60ml
- D. 240 ml - 520ml
- E. 300 ml - 600ml

29. What is the function of Vitamin K?

- A. Carry haemoglobin
- B. Aid in coagulation of blood
- C. Ingest bacteria
- D. Transport CO_2
- E. Transport C

30. From which one of the following the growth hormone is released?

- A. Pituitary gland
- B. Thyroid gland
- C. Adrenal gland
- D. Ovaries
- E. Testis

31. Which one of the following hormones causes baldness as secondary sex character?

- A. Estrogen
- B. Testosterone
- C. Thyroid hormone
- D. Parathyroid hormone
- E. Growth hormone

32. Which one of the following is the function of Amylase?

- A. Break down fats
- B. Synthesized protein
- C. Breakdown carbohydrates
- D. Breakdown hormones
- E. Breakdown vitamins

33. Which one of the following is often recommended for strengthening hair and nails, and it's found in many cosmetic products for hair and skin?

- A. Nicotin
- B. Biotin
- C. Folate
- D. Iron
- E. Zinc

34. Following substance help with fermentation?

- A. Hemoglobin
- B. Protein
- C. Carbohydrate
- D. Phosphate
- E. All of the above

35. $C_6H_{12}O_6 + O_2 \longrightarrow$

- A. $CO + H_2O + E$
- B. $CO_2 + H_2O + E$
- C. $CO_2 + H_2O$
- D. $CO_2 + H_2O + E$
- E. $C_2 + H_2O + E$



45. Which one of the following is involved in the transport of dietary triglycerides and cholesterol to peripheral tissues and liver?

- A. Micelle
- B. Lipase
- C. Chylomicrons
- D. Emulsified globules
- E. Surfactant

46. Complete the given equation
 $CO_2 + H_2O \longrightarrow$

- A. $C_6H_{12}O_6 + O_2$
- B. $C_6H_{12}O + O_2$
- C. $C_6H_{12}O_3 + O_2$
- D. $C_6H_{12}O_6 + O_2$
- E. $C_6H_{12}O_4 + O_2$

47. Which one of the following is overall three-dimensional shape for proteins?

- A. Primary structure
- B. Secondary structure
- C. Quaternary structure
- D. Tertiary structure
- E. Complex primary structure

48. Which one of the following increases the retention of the phosphate and Ca^{++} in body fluids by increasing absorption from the GIT and renal tubules?

- A. Estrogen
- B. Progesterone
- C. Thyroid hormone
- D. Growth hormone
- E. Parathyroid hormone

49. Which one of the following possesses the property to store the genetic information and replicate?

- A. Mitochondria
- B. Cell membrane
- C. Nucleus
- D. Golgi bodies
- E. Ribosomes

50. Which one of the following is the process of synthesis of RNA from the DNA with the same sequence of nucleotides as DNA?

- A. Translation
- B. Transcription
- C. Replication
- D. Trans replication
- E. Scription

51. Which one of the following are purine bases?

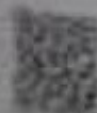
- A. AG
- B. CT
- C. CG
- D. TU
- E. UA

52. Which one of the following is involved in the protein synthesis?

- A. Mitochondria
- B. Cell membrane
- C. Nucleus
- D. Ribosomes
- E. Golgi bodies

53. Which one of the following enzymes catalyze condensation reaction by joining two molecules?

- A. Lipases
- B. Ligases
- C. Transferase
- D. Hydrolases
- E. Oxidases



54. Which one of the following discovered bacteria for the first time in 1670s?

- A. AFA King
- B. Leven hooke
- C. Ingraham
- D. Giam
- E. Aristotle

55. Which one of the following exert insulating effort on nervous tissues?

- A. Proteins
- B. Carbohydrates
- C. Enzymes
- D. Fats
- E. Steroids

56. Which one of the following do not take part in protein synthesis but many of them play important role in the body?

- A. Glycine
- B. Ornithine
- C. Alanine
- D. Valine
- E. Leucine

57. All of the following are standard amino acids EXCEPT,

- A. Glycine
- B. Ornithine
- C. Alanine
- D. Valine
- E. Leucine

58. Which one of the following is responsible for transport of oxygen in the blood?

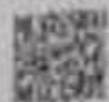
- A. Hemoglobin
- B. Globulin
- C. Keratin
- D. Albumin
- E. Creatinine

59. Which one of the following are small finger-like projections?

- A. Mucros
- B. Vasa recta
- C. Rugae
- D. Villi
- E. None of the above

60. Which one of the following enzymes catalyze hydrolysis?

- A. Lipases
- B. Ligases
- C. Transferase
- D. Hydrolases
- E. Oxidases



SEQs Answer all questions, each question carries 5 marks

Anatomy & Physiology

1. Define the following terminologies of bone movement.
2. Define ESR. What various factors affect the ESR values?
3. What is cardiac cycle? Write down its phases
4. Write down some important functions of the skin
5. Briefly explain Smooth muscles, Cardiac muscles and skeletal muscles. Write at least 3 points about each?

Microbiology

6. Write a short note on importance of yeast?
7. Define sterilization. What are various physical, chemical and mechanical methods of sterilization?
8. Briefly explain the scope of microbiology.
9. What is meant by hypersensitivity? Briefly explain "Anaphylactic hypersensitivity"

Biochemistry

10. Write a brief note on structure, general formula, sources and occurrence of carbohydrates
11. What are different types of hormones based on their chemical classification?
12. What are various Effects of Vitamin -D deficiency? Briefly explain.

