

GENESIS

(Post Graduation Medical Orientation Centre)

Foundation-1 Batch

Total Number- 60

Pass Mark: 42

Subject: Histology-I

Question 16-30 is based on Single answers

Time: 30 Min

Date: 03/03/20

1. Regarding cell membrane following statements are correct

- a) Cell membrane is interspersed with cell membrane proteins.
- b) Cholesterol is the primary building block of cell membrane.
- c) Vesicle is a component of intracellular transport.
- d) Enzymes embedded in cell membrane catalyzes biochemical reactions in cells.
- e) Cell membrane contains hydrophilic tail and hydrophilic head

T F T T F

2. Regarding prokaryotic cell following statements are true-

- a) Membrane enclosed organelles absent
- b) Flagella consists of multiple microtubules
- c) Multiple circular chromosome
- d) No meiosis, transfer of DNA fragments only
- e) Glycocalyx present

T F F T T

3. The cell nucleus

- a) Is continuous with smooth endoplasmic reticulum
- b) Contain histone and non histone protein
- c) Has a nucleoli which persist during cell division
- d) Nuclear lamina stabilizes nuclear membrane
- e) Cells with dark stained nuclei are more active in protein synthesis

F T F T F

4. Mitochondria

- a) 100% maternally inherited
- b) Have a flat inner membrane
- c) New mitochondria can originate from preexisting mitochondria
- d) Abundant in fibroblast
- e) Enzymes that oxidize pyruvate and fatty acids to form acetyl coenzyme A are found in inner membrane

T F T F F

5. Mitochondrial DNA

- a) Inherited from both parents
- b) Circular
- c) Lower mutation rate
- d) Haploid
- e) No intron

F T F T T

6. The endoplasmic reticulum is concerned with..

- a) Glycogenolysis
- b) K storage
- c) Detoxification
- d) Glycogenesis
- e) Prevent non functional protein being forwarded for secretion

T F T F T

7. Function of golgi complex are..

- a) Packaging of protein
- b) Translation
- c) Storage of protein
- d) Proteolysis
- e) Synthesis of mRNA

T F T T F

8. Lysosomes

- a) They are filled acid hydrolase and other enzymes
- b) They are monomorphic and uniform in structure and function
- c) Autophagic in nature
- d) They can digest proteins, nuclei acids, lipids and polysaccharides
- e) Non-membranous organelle

T F T T F

9. Microtubules

- a) Heterodimer
- b) Polarity present
- c) Present in axon
- d) Play a role in cytoplasmic streaming
- e) Also found in flagella

T T T F T

10. Regarding cell cycle...

- a) The daughter cells formed during mitosis enter the G₁ phase
- b) RNA & proteins essential to cell division are synthesized in G₁ phase
- c) S phase takes around 25 hours
- d) Genome is duplicated in S phase
- e) Permanent cell enters into G₁ phase

T F F T F

11. In prophase stage of mitosis cell division..

- a) Chromatin condense
- b) Chromatin becomes chromosomes
- c) Nucleolus disappear
- d) Reforming of nucleolus
- e) New nuclear membrane develops

T T T F F

12. In mitotic cell division..

- a) Prophase- Formation of metaphasic plate
- b) Metaphase - Disintegration of nucleolus
- c) Anaphase - Movement of daughter chromosomes
- d) Telophase - Reformation of nuclear membrane
- e) Metaphase – Chromosome stay in equator

F F T T T

13. Concerning meiosis

- a) Crossing over occurs between sister chromatids during prophase-I
- b) Daughter cells enter a second meiotic division after passing through the interphase of a cell cycle
- c) Independent assortment of maternal and paternal genetic material occurs in division I
- d) The result of division I is a chromosomal reduction to the haploid number but the amount of DNA is diploid
- e) There is no pairing of homologous chromosomes

F F T T F

14. Gap junctions

- a) Characterized by actual contact of adjacent cell membrane
- b) Individual unit of gap junction is called connexin
- c) Each gap junction is formed by tens or hundreds of aligned pairs of connexons
- d) Contain actin filament
- e) Present in pancreas

F F T F T

15. Epithelial tissue is

- a) Avascular
- b) Has no nerve supply
- c) Cells has polarity
- d) Derived from all germ layer
- e) Lamina propria provides nutrition

T F T T T

Each question below contains five suggested answers- choose the one best response to each question (16-30)

16. True statement regarding G1 phase of cell cycle

- a) Gap between DNA replication and next mitosis
- b) Shortest phase of cell cycle
- c) Synthesis regulatory protein for DNA replication
- d) Reduce cell size
- e) Energy for mitosis is stored

C

17. Mode of secretion of sebaceous gland is

- a) Apocrine
- b) Merocrine
- c) Holocrine
- d) Paracrine
- e) Autocrine

C

18. What type of epithelium is associated with thyroid follicle ?

- a) Simple squamous epithelium
- b) Simple cuboidal epithelium
- c) Simple columnar epithelium
- d) Stratified squamous epithelium
- e) Transitional epithelium

B

19. Striking feature of anaphase-1 of meiosis cell division

- a) Crossing over occurs
- b) Nucleolus disappear
- c) Centromeres do not divide
- d) New migration of homologous chromosomes
- e) Centromere is divided

C

20. Articular cartilage

- a) Perichondrium present
- b) Rich of nerve supply
- c) Type I collagen fiber present
- d) Middle layer is calcified
- e) Kept moist by synovial fluid

E

21. Which one is correct?

- a) Uterus-simple cuboidal epithelium
- b) Proximal convoluted tubule of kidney-simple squamous epithelium
- c) Larynx-Stratified squamous keratinized epithelium
- d) Conjunctiva-Stratified columnar epithelium
- e) Ureter-Stratified columnar epithelium

D

22. Cilia..

- a) Microfilament present
- b) Immotile
- c) Present in spermatozoa
- d) Has a rapid back and forth movement
- e) Smallest

D

23. Type I collagen fibres present in following structures except..

- a) Vitreous body
- b) Skin
- c) Tendon
- d) Bone
- e) Dentin

A

24. Fibrocartilage present in following structures except

- a) Symphysis pubis
- b) Articular cartilage of bones which are cartilaginous in ossification
- c) Glenoid labrum
- d) Menisci of knee
- e) Acetabular labrum

B

25. Regarding intermediate filament which one is correctly matched?

- a) Desmin-Epithelial cells
- b) Vimentin-Neuron
- c) Nestin- muscle cells
- d) GFAP-Astrocytes
- e) Symentin-Nuclei of all cells

D

26. Which organelle sorts and packages proteins within a cell?

- a) Rough endoplasmic reticulum
- b) Smooth endoplasmic reticulum
- c) Lysosome
- d) Golgi apparatus
- e) Mitochondria

D

27. Choose the correct statement:

- a) Genes are located in the chromosomes.
- b) Cell is located in the nucleus.
- c) Chromosomes are located in the nucleolus.
- d) Cell membrane surrounds the nucleus.
- e) All the cells have nucleus.

A

28. Fixed cells of the connective tissue except...

- a) Mast cells
- b) Pigment cells
- c) Plasma cells
- d) Osteoblast
- e) Adipose cells

C

29. In which organelle, β -oxidation of long chain fatty acids (18 carbons and longer) occurs?

- a) Mitochondria
- b) Endoplasmic reticulum
- c) Golgi apparatus
- d) Lysosome
- e) Mirobodies

E

30. Microtubules are found in following structures except...

- a) Cillia
- b) Flagella
- c) Axon
- d) Elastic fiber
- e) Centriole

D