



BRAINWARE UNIVERSITY

Term End Examination 2021 - 22

Programme – Bachelor of Science (Honours) in Biotechnology

Course Name – Cell Biology

Course Code - BBTC201

(Semester II)

Time allotted : 1 Hrs.15 Min.

Full Marks : 60

[The figure in the margin indicates full marks.]

Group-A

(Multiple Choice Type Question)

1 x 60=60

Choose the correct alternative from the following :

- (1) Polythene chromosomes are found due to ?

a) Mitosis	b) Endomixes
c) Endomitosis	d) Meiosis
- (2) Cristae are associated with?

a) Mitochondria	b) Cytoplasm
c) Vacuole	d) Ribosomes.
- (3) Histone octamere contains _____

a) 8 types of histones	b) 5 types of histones
c) 6 types of histones	d) 8 histones of four different types
- (4) Detoxification of lipid drugs and other harmful compounds in ER is carried out by?

a) Cytochrome P450	b) Cytochrome bf
c) Cytochrome D	d) Cytochrome F--
- (5) Which among the following is known as mitoplast?

a) Mitochondria without outer membrane	b) Mitochondria without inner membrane
c) Mitochondria without membranes	d) Another name for mitochondria
- (6) Amyloplasts are articles storing _____

a) Fats	b) Proteins
c) Lipids	d) Starch
- (7) What is the basic functional and structural unit of organisms?

- a) Nucleus
c) Cell
- b) DNA
d) Gene
- (8) Name the Scientists who first discovered the cell in the piece of cork?
a) Louis Pasteur
c) Robert Hooke
- b) Anton van Leeuwenhoek
d) Rudolf Virchow
- (9) What is the permeability of the plasma membrane?
a) Selectively permeable
c) Single phase flow
- b) Impermeable
d) Highly permeable
- (10) Which of the following is described by the fluid mosaic model.
a) Nucleus
c) Endoplasmic reticulum
- b) Plasma membrane
d) Ribosome
- (11) What is the name of the hollow sphere formed by lipid bilayer?
a) Cholesterol
c) Micelle
- b) Lipid raft
d) Liposome
- (12) Name the technique which is used to visualize the distribution of the protein in the membrane?
a) Patch clamp technique
c) Freeze-etching
- b) FRAP
d) Freeze-fracture technique
- (13) Which of the following transport protein allows the transport of single solute from one side of the membrane to other?
a) Active transport
c) Uniporters
- b) Passive transport
d) Co-transporter
- (14) What is the function of antiporters ?
a) Transfer of the second solute in the same direction
c) Transfer of single solute
- b) Transfer of the second solute in the opposite direction
d) Transfer of solute through pores
- (15) Name the type of antibodies which are present in blood group 'O' ?
a) Anti-A and anti-B
c) Anti-B
- b) Anti-A
d) H-antigen
- (16) Which of the following transport mechanism does not use metabolic energy?
a) Secondary active transport
c) Active transport
- b) Primary active transport
d) Passive transport
- (17) Which of the following coated vesicle transport protein from ER to Golgi?
a) Clathrin
c) COP I
- b) COP II
d) COP III
- (18) Name the scientist who discovered Golgi apparatus ?
a) Robert Remake
c) Camillo Golgi
- b) Rudolf Virchow
d) Theodor Schwann
- (19) Which of the following organelle takes part in the secretion?
a) Cytoplasm
- b) Ribosomes

- c) ER compartments
d) Golgi apparatus
- (20) Which type of glycosylation takes place in the Golgi apparatus?
a) T-linked glycosylation
b) N-linked glycosylation
c) O-linked glycosylation
d) G-glycosylation
- (21) Which of the following is not the function of the Golgi apparatus ?
a) Processing and shorting of glycoprotein
b) Lipid metabolism
c) Carbohydrate metabolism
d) Amino acid metabolism
- (22) Name the complex polysaccharide which does not synthesize in the Golgi apparatus?
a) Starch
b) Hemicellulose
c) Glycosaminoglycans
d) Pectins
- (23) The site of aerobic respiration in eukaryotic cells is _____
a) Peroxisome
b) Plastid
c) Mitochondria
d) Cilia
- (24) How do the small molecules pass through the outer membrane of mitochondria?
a) ATP pump
b) Carrier protein
c) Channels
d) Porins
- (25) Which of the following division technique is similar in mitochondria and bacteria? a) b) c) d)
a) Binary fission
b) Budding
c) Binary fusion
d) Meiosis
- (26) Which of these are not from plastid family ?
a) Chloroplast
b) Tonoplast
c) Chromoplast
d) Leucoplast
- (27) Which of the following is responsible for pigment synthesis and storage?
a) Leucoplast
b) Chloroplast
c) Chromoplast
d) Etioplast
- (28) Name the plant organelle which acts as a major site for an oxidative reaction?
a) Peroxisomes
b) Mitochondria
c) Chloroplast
d) Thylakoid
- (29) Cell shape and cellular motility is determined by the _____
a) Centrioles
b) Intermediate filament
c) Microtubule
d) Microfilaments
- (30) Which of the following feature is the same in cilia and flagella?
a) Help in locomotion
b) Wave-like motion
c) Occurring all over the surface of the cell
d) Very small in size
- (31) Name the cells which lost their control of the regulated division, differentiation, and apoptosis ?
a) Tumor cell
b) Immune cell
c) Platelets
d) Stem cells
- (32) Which of the following is NOT the type of cancer?

- a) Carcinomas
c) Leukemia
- b) Sarcomas
d) Caspases
- (33) What is the origin of the cancerous cells?
a) Monoclonal
c) Stem cells
- b) Polyclonal
d) Mesodermal cells
- (34) Which of the following mutation causes Burkitt's lymphoma?
a) Point mutation
c) Deletion
- b) Chromosomal translocation
d) Duplication
- (35) Which of the following mutation causes Burkitt's lymphoma ?
a) Point mutation
c) Deletion
- b) Chromosomal translocation
d) Duplication
- (36) Name the genes which directly inhibit cell growth or promote cell death.
a) Gatekeeper genes
c) Checkpoints
- b) Caretaker genes
d) Transcription factors
- (37) Name the chemical carcinogen which causes prostate cancer.
a) Radon
c) Cadmium
- b) Arsenic
d) Asbestos
- (38) The sphaerosomes are rich in
a) Triglycerides and hydrolytic enzyme lipase
c) Nucleases
- b) Oxidative enzymes
d) Proteases
- (39) Nucleoporins are _____
a) Nuclear pores
c) rRNAs in the nucleolus
- b) Ribosomes on nuclear membranes
d) None of the mentioned
- (40) The transport factors that help in the transport of molecules through the nuclear pores are known as _____
a) Nucleopherins
c) Karyopherins
- b) Nucleoporins
d) Karyoporins
- (41) Lamin proteins that bind to the intra-nuclear chromatin are _____
a) Emerin
c) LEM-3
- b) Nesprin
d) Cannot be said
- (42) Nuclear Organizer Regions (NOR) is found in _____
a) Nuclear matrix
c) Nuclear lamina
- b) Nucleolus
d) Nucleoporins
- (43) Apoptosis can't kill which of the following?
a) Cell infected with viruses
c) Cancer cells
- b) Cell with DNA damage
d) Immune cells
- (44) Which of the following is an anti apoptotic protein?
a) Bcl-Xs
c) Bim
- b) Bfl 1
d) NOXA

- (45) Which of the following cell organelle actively participates in animal apoptosis?
- | | |
|----------------|-----------------|
| a) Vacuols | b) mitochondria |
| c) chloroplast | d) nucleus |
- (46) Caspases can be activated by_____
- | | |
|---------------|----------|
| a) Cytochrome | b) IAP |
| c) RNase | d) DNase |
- (47) Which of the following is not a characteristic of apoptotic animal cell?
- | | |
|-----------------------------------------------|----------------------------------------|
| a) Trasglutaminase forms a net like structure | b) Cell membrane blebbing |
| c) Mitochondria swollen | d) DNA marginization and fragmentation |
- (48) Which of the following plays a substantial role in linking together sister chromatids immediately after replication?
- | | |
|-------------|-------------------|
| a) Cohesins | b) Condensins |
| c) Histones | d) Topoisomerases |
- (49) Chromatin is composed of
- | | |
|--------------------------|---------------------|
| a) DNA | b) DNA and proteins |
| c) DNA, RNA and proteins | d) None |
- (50) Which of the following histones bind to linker DNA?
- | | |
|-------|--------|
| a) H1 | b) H2A |
| c) H3 | d) H2B |
- (51) Which of the following has beads on a string structure?
- | | |
|----------------|--------------------|
| a) Chromosomes | b) Chromatin |
| c) Nucleosomes | d) Heterochromatin |
- (52) Which of the following histones shows more sequence similarity among eukaryotic species?
- | | |
|--------|--------|
| a) H1 | b) H2A |
| c) H2B | d) H3 |
- (53) Apoptosis can't kill/affect which of the following?
- | | |
|-------------------------------|-------------------------|
| a) Cell infected with viruses | b) Cell with DNA damage |
| c) Cancer cells | d) Immune cells |
- (54) The anti apoptotic protein is
- | | |
|-----------|----------|
| a) Bcl-Xs | b) Bfl 1 |
| c) Bim | d) NOXA |
- (55) Caspases can be activated by
- | | |
|---------------|----------|
| a) Cytochrome | b) IAP |
| c) RNase | d) DNase |
- (56) The DNA is uncondensed throughout in the phase
- | | |
|-------------|---------------|
| a) Prophase | b) Metaphase |
| c) anaphase | d) interphase |
- (57) Which one of the following plays a substantial role in linking together sister chromatids immediately after replication?

a) Cohesins

c) Histones

(58) The Chromatin is composed of

a) DNA

c) DNA, RNA and proteins

(59) Which of the histones bind to linker DNA?

a) H1

c) H3

(60) beads on a string structure is shown by

a) Chromosomes

c) Nucleosomes

b) Condensins

d) Topoisomerases

b) DNA and proteins

d) None

b) H2A

d) H2B

b) Chromatin

d) Heterochromatin