BRAINWARE UNIVERSITY

Term End Examination 2024-2025
Programme – B.Physiotherapy-2022/B.Sc.(MLT)-2022/B.Sc.(PA)-2022/B.Sc.(FND)-Hons-2022/B.Physiotherapy-2023/B.Sc.(PA)-2023/B.Physiotherapy-2024/B.Sc.(PA)-2024
Course Name – General Biology
Course Code - GEBT102
(Semester I)

Full Marks : 60 **Time : 2:30 Hours**

[The figure in the margin indicates full marks. Candidates are required to give their answers in their own words as far as practicable.]

Group-A

(Multiple Choice Type Question) 1 x 15=15

1. *Choose the correct alternative from the following :*

(i) Which of the following nucleotides is not present in RNA?
a) 1) AMP b) 2) GMP
c) 3) CMP d) 4) TMP

(ii) Auxin helps in growth of _____ .
a) Cell b) Animals
c) Protozoa d) Fungi

(iii) Organelles can be separated from the homogenate cell by _____
a) Autoradiography b) Differential centrifugation
c) Chromatography d) X-ray diffraction

(iv) Leaf senescence is regulated by _____.
a) Ethylane b) Ethylene
c) Ethane d) Butane

(v) If both genotype and phenotype shows the same ratios of 1:2:1 in the F2 generation, it shows
a) incomplete dominance in monohybrid cross b) complete dominance in monohybrid cross
c) dihybrid cross d) co-dominance

(vi) Select which organelle maintains the cell's shape, providing structural support.
a) Cytoskeleton b) Endoplasmic Reticulum
c) Lysosome d) Peroxisome

(vii) Identify which of the following syndrome is associated with XXY genotype
a) Klinefelter Syndrome. b) Turner Syndrome.
c) Triplo-X. d) Jacob Syndrome.

(viii) Identify which of the following does the enzyme primase synthesize.

a) DNA primer
b) RNA primer
c) Okazaki fragments
d) phosphodiester linkage

(ix) Enzymes used in DNA proofreading

a) primase
b) topoisomerase
c) DNA polymerase
d) helicase

(x) Explain the characteristics of rough pneumococci strain

a) nonencapsulated and pathogenic
b) nonencapsulated and nonpathogenic
c) encapsulated and pathogenic
d) encapsulated and non-pathogenic

(xi) Which of these can be an antigen?

a) Bacteria
b) Virus
c) Fungi
d) All of the these

(xii) Racemose type of inflorescence can be found in

a) Atropa
b) Cruciferae
c) Radish
d) Both 2 and 3

(xiii) Neurons do not divide, because

a) They lack nucleus
b) They lack mitochondria
c) They lack Golgi bodies
d) They lack centrioles

(xiv) Lactic acid is formed during

a) Aerobic respiration
b) Anaerobic respiration
c) Bpth
d) NOTA

(xv) Identify the technique that cannot be used for the separation of nucleic acids.

a) Northern blotting
b) PAGE
c) SDS-PAGE
d) None of the mentioned

Group-B

(Short Answer Type Questions) 3 x 5=15

2. Explain the key steps involved in DNA replication. (3)
3. Explain the role of transfer RNA (tRNA) in genetic translation. (3)
4. Explain the function of the mitochondria in eukaryotic cells. (3)
5. What are the two primary types of nucleic acids found in cells? (3)
6. Describe the key factors that regulate Spermatogenesis in human. (3)

OR

Investigate the role of hormones in the animal reproductive system. (3)

Group-C

(Long Answer Type Questions) 5 x 6=30

7. What are the main components of the digestive system in animals? (5)
8. Summarize the steps of organic or biological evolution involving origin of life as proposed by Oparin. (5)
9. Write short notes on fertilization. (5)
10. Explain the concept of the central dogma of molecular biology. (5)
11. Write a short notes on co-dominance and incomplete dominance. (5)
12. Explain the components of xylem and phloem tissues. (5)

OR

Explain the Griffith transformation experiment. (5)

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