

1M1N21117

(Pages : 2)

Reg. No:.....

Name:

FAROOK COLLEGE (AUTONOMOUS), KOZHIKODE
First Semester M.Sc Degree Examination, November 2021

MZL1C01 – Biochemistry

(2019 Admission onwards)

Time: 3 hours

Max. Weightage : 30

I. Answer any eight questions (Each question carries 1 Weightage)

1. What are epimers ? Give an example
2. Mention any four biological roles of monosaccharides.
3. How is osazone formed ?
4. What are sphingolipids?
5. What are allosteric enzymes ?
6. What is Chargaff's rule ?
7. Define enthalpy and entropy
8. What is the role of PFK in glycolysis?
9. How proline is different from other amino acids?
10. What are zwitter ions ?
11. Write the biochemical functions of Vitamin A?

(1x8=8 weightage)

II. Answer any Four questions (Each question carries 3 Weightage)

12. Write an account of Ramachandran plot
13. Briefly explain Electron Transport Chain
14. Describe the β oxidation of fatty acids
15. Explain the mechanism of glycogenesis
16. Describe the clover leaf model of tRNA
17. Describe the structure of nitrogen bases present in DNA. Add a note on tautomerism.
18. Give an account of Prostaglandins

(3x4=12 weightage)

III. Answer any 2 of the following questions (Each question carries 5 Weightage)

19. Derive Michaelis-Menten equation. Write the significance of K_m & V_{max}
20. Describe the Pentose Phosphate Pathway.
21. Explain the biosynthesis and degradation of purine bases.
22. Write an essay on the classification of lipids.

(5x2=10 weightage)

1M1N21118

(Pages : 1)

Reg. No:.....

Name:

FAROOK COLLEGE (AUTONOMOUS), KOZHIKODE
First Semester M.Sc Degree Examination, November 2021
MZL1C02 – Biophysics & Biostatistics
(2019 Admission onwards)

Time: 3 hours

Max. Weightage : 30

I. Answer any Eight questions. (Each question carries one weightage).

1. What is the principle and applications of affinity chromatography?
2. Explain X-ray diffraction and its uses.
3. What is the biological importance of colloids?
4. Explain the resolving power of light microscope.
5. Describe the principle of echolocation.
6. Enumerate the principle and applications of fluorescence microscope.
7. Comment on EEG.
8. Explain the influence of G force.
9. What are the applications of tracer techniques?
10. What is a scatter diagram?
11. Write on primary data.
12. Explain the advantages and disadvantages of census.

(1 x 8= 8 weightage)

II. Answer any Four questions. (Each question carries 3 weightage).

13. Comment on ion-exchange chromatography and gel filtration.
14. What are radiation detectors? Comment on different types of detectors.
15. Describe the principle of PET, MRI and CAT.
16. Explain Gibbs Donan equilibrium.
17. What is LASER? Explain its applications in biology.
18. Write notes on collection, classification and tabulation of data.
19. Explain Kruskal-Wallis and Mann-Whitney test.

(3 x 4= 12 weightage)

III. Enumerate the role of nanotechnology in environmental management.

20. Describe the different types of electrophoretic techniques and their applications.
21. Explain the physical organization of ear and the mechanism of sound transmission.
22. Enumerate the role of nanotechnology in environmental management.
23. Explain different types of regression and correlation analysis with example.

(5 x 2= 10 weightage)

1M1N21119

(Pages : 1)

Reg. No:.....

Name:

FAROOK COLLEGE (AUTONOMOUS), KOZHIKODE
First Semester M.Sc Degree Examination, November 2021
MZL1C03 – Systematic & Evolution
(2019 Admission onwards)

Time: 3 hours

Max. Weightage : 30

I. Answer any eight questions (Each question carry 1 Weightage)

1. Comment on Molecular clocks and genetic equidistance.
2. What are the evolutionary significance of Wet nosed and Dry nose primates?
3. Differentiate between parallelism and convergence.
4. Comment on sexy son hypothesis
5. Explain the evolutionary significance of punctuated equilibrium
6. Comment on Bottle neck effect
7. Briefly describe collapse of orthogenesis?
8. Differentiate between Indented Key and circular Key with an example for each
9. Differentiate Alpha and Gamma taxonomy
10. Comment on Typological classification
11. What is homonym explain with an example?
12. Comment on Ethics related to publication

(1x8=8 weightage)

II. Answer any Four (Each question carry 3 Weightage)

13. Explain the evolutionary significance of Hardy-Weinberg equation
14. Differentiate between Anagenesis and cladogenesis
15. What are the isolating mechanism and Factors affecting in speciation?
16. Explain the merits and demerits of DNA bar coding
17. What are the duties of a curator?
18. Comment on history and content of International Code of Zoological Nomenclature
19. Explain species concepts

(3x4=12 weightage)

III. Answer any 2 of the following (Each question carry 5 Weightage)

20. Describe the primate evolution
21. Comment on significance of Phylogenetic relationships and parsimony analysis
22. Explain Taxonomic impediments and add note on your suggestions to overcome
23. Explain any five importance of taxonomy with suitable examples

(5x2=10 weightage)