BLDE (DEEMED TO BE UNIVERSITY)
B.SC. IN BIOTECHNOLOGY

[Time: 3 Hours]   [Max.Marks: 80]

II SEMESTER
PAPER – II (Biochemistry and Metabolism)
QP CODE: 8276

Your answer should be specific to the questions asked.
Write Question No. in left side of margin.

Long Questions   10X1 = 10 Marks

1. Describe the classification of amino acids along with their structures.

Short Essays: (Any – 8)   5 X 8 = 40 Marks

2. Describe the structure and functions of mucopolysaccharides.

3. What are Essential fatty acids,

4. Explain Classification of enzymes

5. Physical properties of DNA

6. Explain different chemical properties of Amino acids

7. Importance of fatty acids

8. TCA cycle

9. Classification of enzymes

10. What is different form of DNA

Short Answers: (Any – 10)   3 X 10 = 30 Marks

11. Discuss the biological importance of amphipathic lipids.

12. Osazone formation

13. Iodine number

14. Define isoelectric point

15. Importance of A form of DNA

16. Beta -Pleated sheet

17. Peptide bond

18. Nucleosides

19. Apoenzymes

20. Active site

21. Glycosidic bond

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II SEMESTER
PAPER – I (Fundamental Chemistry - II)
QP CODE: 8275

Your answer should be specific to the questions asked.
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Long Questions

10X1 = 10 Marks

1. Classify elimination reaction, explain with the notations used to designate. What are the various factors and how they influence these reactions?

Short Essays: (Any – 8)

5 X 8 = 40 Marks

2. What is a nucleophile and give its characteristics. Give example of any three nucleophiles.
3. Draw Born-Haber cycle.
4. Which quantum number described shape of orbitals? Draw shapes of p and d orbitals.
5. Give general characteristics of coordinate and covalent bonds. Comment on their strengths.
6. What is lattice energy? Explain.
7. Give any two methods for synthesis of alkynes.
8. Draw the transition state structure of SN2 reaction and draw energy profile diagram.
9. Define enantiomers and meso molecule. Draw structures selecting any molecules of your choice.
10. Draw diagram of hydrogen spectrum

Short Answers: (Any – 10)

3 X 10 = 30 Marks

11. Draw structure of different conformers of n-butane.
12. Write the products of Br2 addition to n-but-2-ene.
13. What are different quantum numbers? What is the significance of azimuthal quantum number?
14. Define pKa taking hydrochloric acid solution in water as an example.
15. Give any two methods for synthesis of alkenes.
16. Give any three properties of alkanes.
17. Write the products of partial and complete hydrogenation of alkynes.
18. What are molecular orbitals? Draw of MO of oxygen.
19. Draw the shape of carbanion.
20. What do you understand by LCAO method?
21. Write resonance structures of Phenoxide ion[PhO(-)]

BLDE (DEEMED TO BE UNIVERSITY)
B.Sc. AHS IN BIOTECHNOLOGY

[Time: 3 Hours]   [Max.Marks: 80]

II SEMESTER
PAPER – III (BIO - STATISTICS)
QP CODE: 8277

Your answer should be specific to the questions asked.
Write Question No. in left side of margin.

Long Questions   10X1 = 10 Marks

1. Discuss with examples measures of central tendency

Short Essays: (Any – 8)   5 X 8 = 40 Marks

2. Explain the graphical methods of representing quantitative data

3. Explain presentation of data

4. Discuss Wilcoxon Sign Rank test and Mann Whitney U test

5. Compare Nonparametric and Parametric data

6. Explain Application of t test and types of t test

7. Explain the procedure of Z test difference between two proportions

8. Explain about Application of statistics in research.

9. Discuss the methods of sample size calculation in comparative studies.

10. Compare probability and non-probability sampling methods

Short Answers: (Any – 10)   3 X 10 = 30 Marks

11. Explain null hypothesis, type I and type II errors.

12. Discuss- Histogram, Bar diagram and Pai Diagram

13. Define Standard Error

14. Define data and types of data

15. Explain any three measures of dispersion with examples.

16. Explain about Sampling

17. Explain one tailed and two tailed tests

18. Classify and list the tests used for hypothesis testing of parametric data

19. Explain two methods of sample size calculation in research study.

20. Explain the criteria of using hypothesis testing of non-parametric data

21. Define normal distribution