BACHELOR OF SCIENCE (CBCS-2018 COURSE)
T. Y. B. Sc. Sem-V : WINTER- 2022
SUBJECT : BOTANY : MOLECULAR BIOLOGY & BIOCHEMISTRY

Day : Friday
Time : 02:00 PM-05:00 PM

Date : 16-12-2022
W-18426-2022
Max. Marks : 60

N.B.:

1) All questions are **COMPULSORY**.
2) Figures to the right indicate **FULL** marks.
3) Draw neat and labeled diagram **WHEREVER** necessary.

Q.1 Attempt **ANY TWO** of the following: **[12]**

a) Give structure, properties and functions of amino acids.
b) Give classification of protein and describe synthesis of proteins.
c) Explain mechanism of enzyme action.

Q.2 Attempt **ANY TWO** of the following: **[12]**

a) Explain the synthesis of nucleotides.
b) Explain concept of genetic engineering with suitable examples.
c) Give principle and techniques in gene cloning.

Q.3 Attempt **ANY TWO** of the following: **[12]**

a) Comment on DNA as a genetic material.
b) Describe concept of transgenic plants with reference to Golden rice.
c) Give structure of RNA and explain its various forms.

Q.4 Attempt **ANY THREE** of the following: **[12]**

a) Give classification and properties of lipids.
b) Explain the lock-key hypothesis.
c) Explain role of agrobacterium.
d) Describe concept of gene transfere in plants.

Q.5 Attempt **ANY FOUR** of the following: **[12]**

a) Write note on choice of vectors.
b) Distinguish between monosaccharides and polysaccharides.
c) Write note on finger printing.
d) Comment on cloning vectors.
e) Explain in brief polymerase chain reaction (PCR).

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