Code: 20MC1101

I B.Tech - I Semester – Regular Examinations – JULY 2021

LIFE SCIENCES FOR ENGINEERS
(Common to EEE, ME, ECE)

Duration: 3 hours   Max. Marks: 70

Note: 1. This paper contains questions from 5 units of Syllabus. Each unit carries 14 marks and have an internal choice of Questions.
2. All parts of Question must be answered in one place.

UNIT – I

1. a) Identify the similarities between eye and camera.   7 M
    b) Classify the living organisms based on Ultrastructure.   7 M
                                    OR
2. a) Utilize your knowledge gained by observing a flying bird to design an Aircraft.   7 M
    b) Distinguish between prokaryotes and eukaryotes.   7 M

UNIT – II

3. a) Categorize different types of proteins with neat labeled diagrams.   7 M
    b) Construct the structure of DNA with a neat diagram.   7 M
                                    OR
4. a) Sketch the different types of Antibodies and their functions.   7 M
    b) List out different enzymes and their industrial applications.   7 M

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UNIT-III

5. Identify how pyruvic molecules are synthesized in the Glycolytic pathway.   14 M

OR

6. Examine the process of Photosynthesis to identify the end products using a photosynthetic equation.   14 M

UNIT – IV

7. a) Develop a Punnet Square to explain the F1 & F2 generation in a di-hybrid cross Pea plant.   7 M
   b) Categorize single-gene disorders with examples.   7 M

OR

8. a) Choose the ratio of black and white off-springs when two heterozygous guinea pigs are crossed.   7 M
   b) Analyze Gene mapping with an example.   7 M

UNIT – V

9. a) Structure the steps of recombinant vaccines.   7 M

   b) Discover the transgenic animals. Explain methods to create transgenic animals with example.   7 M

OR

10. Examine the types of biosensors and their applications in different engineering fields.   14 M