

BIRLA INSTITUTE OF TECHNOLOGY, MESRA, RANCHI
(END SEMESTER EXAMINATION)

CLASS: BTECH
BRANCH: CS/IT/EC/EE

SEMESTER : II
SESSION : SP/2022

SUBJECT: BE101 BIOLOGICAL SCIENCE FOR ENGINEERS

TIME: 3 Hours

FULL MARKS: 50

INSTRUCTIONS:

1. The question paper contains 5 questions each of 10 marks and total 50 marks.
 2. Attempt all questions.
 3. The missing data, if any, may be assumed suitably.
 4. Tables/Data hand book/Graph paper etc. to be supplied to the candidates in the examination hall.
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- Q1(a) What are the organelles that differentiate plant cell from the animal cell? Describe their functions. [5]
Q1(b) Before cell division DNA is copied/doubled and equally divided into two daughter cells. At which stage of the cell cycle does this happen. Draw all four stages of mitosis nuclear division. [5]
- Q2(a) Justify high carbohydrates in your diet make you gain weight (Fat body). [5]
Q2(b) Describe water-soluble vitamins. List a few food sources rich in Vitamin D. [5]
- Q3(a) State any three advantages of immobilization of enzymes. [5]
Q3(b) What are enzymes? Describe any three factors affecting the rate of enzymatic reactions. [5]
- Q4(a) Draw a schematic diagram of ear parts. Briefly describe its functions. [5]
Q4(b) What is cell signal amplification? Demonstrate through an example. [5]
- Q5(a) How PCR is important in our daily life? Explain. [5]
Q5(b) What are essential nutrients in Hydroponics? Why Nitrogen is essential for Plants? [5]

:::::21/07/2022:::::