

Time: 2:40 Hours

SUBJECTIVE

Marks: 68

Note: Section I is compulsory. Attempt any THREE (3) questions from Section II.

(SECTION - I)

2. Write short answers to any EIGHT questions.

(2 x 8 = 16)

- What is a renal failure?
- Justify the importance of kidneys as vital organs.
- Conclude whether hemodialysis or peritoneal dialysis is better than the other one.
- How many different regions are present in vertebral column? Name them. Also write down number of vertebral in each region.
- Differentiate between cartilaginous joints and synovial joints.
- Define smooth muscles.
- What is the stimulus for ovulation in oestrous cycle?
- Define genital herpes.
- Write down plant and animal life of tundra ecosystem.
- Differentiate between phytoplankton and zooplankton.
- What are the consequences of population increase?
- What are four different effects of acid rain?

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3. Write short answers to any EIGHT questions.

(2 x 8 = 16)

- How epilepsy is characterized and diagnosed?
- Give any two types of hormones with examples on the basis of composition.
- Justify that calcitonin is antagonistic to parathormone.
- Differentiate between phenotype and genotype.
- Differentiate between diabetes mellitus type-I and diabetes mellitus type-II.
- Give example and illustrate sex limited trait.
- Narrate how gene of interest can be made from mRNA?
- What are palindromic sequences? Write down palindromic sequence for Eco RI.
- How bacterial cells can take up recombinant plasmid?
- Differentiate between primary and secondary consumers.
- Give an example and write down about commensalism.
- Justify that lichens are examples of mutualism.

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4. Write short answers to any SIX questions.

(2 x 6 = 12)

- If all the cells contain same nuclear material, what causes the cells to differentiate?
- Which type of cleavage is found in bird's egg? Discuss briefly.
- Enlist initiation codon and nonsense codons.
- Why a cap and tail is added to mRNA?
- What is transformation?
- Sketch and label cell cycle.
- What is metastasis?
- Which idea is known as endosymbiont hypothesis?
- What is the difference between endangered species and threatened species?

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(SECTION - II)

- Give osmoregulatory adaptations in terrestrial animals. (4)
 - Define ecosystem. Describe its components. (4)
- Explain the type of growth in plants due to which diameter of their stem increases. (4)
 - What is genetic code? Explain the essential features of genetic code. (4)
- Suggest the various commercial applications of auxins & gibberellins. (4)
 - Describe the various reasons for world population explosion. (4)
- Explain and draw human female reproductive cycle. (4)
 - Write down a note on "Epistasis" and "Bombay Phenotype". (4)
- Explain the phenomenon of embryonic induction. (4)
 - Many factors can alter the gene frequency. Discuss various factors responsible for evolutionary change. (4)

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