BIOLOGY **(Intermediate Part-II , Class 12th) 422** **Paper II** **(Group – I)**

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)**

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

3. Write short answers to any EIGHT questions. **(2 x 8 = 16)**

i. How epilepsy is characterized and diagnosed?
ii. Give any two types of hormones with examples on the basis of composition.
iii. Justify that calcitonin is antogonistic to parathormone.
iv. Differentiate between phenotype and genotype.
v. Differentiate between diabetes mellitus type-I and diabetes mellitus type-II.
vi. Give example and illustrate sex limited trait.
vii. Narrate how gene of interest can be made from mRNA?
viii. What are palindromic sequences? Write down palindromic sequence for Eco R1.
ix. How bacterial cells can take up recombinant plasmid?
x. Differentiate between primary and secondary consumers.
xi. Give an example and write down about commensalism.
xii. Justify that lichens are examples of mutualism.

4. Write short answers to any SIX questions. **(2 x 6 = 12)**

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

(SECTION - II)

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