

BIOLOGY

021/1

(Smart Syllabus)

(PART - II)

(INTERMEDIATE)

Marks : 17

(OBJECTIVE PART)

(***)

Time : 20 Minutes

Note:- Write your Roll No. in space provided. Over writing, cutting, using of lead pencil will result in loss of marks. All questions are to be attempted.

1- Each question has four possible answers, Tick (☒) the correct answer. (17)

1	Condensation of chromosomes reaches to its maximum during;							
	A	Diakinesis	B	Diplotene	C	Pachytene	D	Zygotene
2	Insulin gene is located on short arm of chromosome;							
	A	7	B	9	C	11	D	19
3	EcoR1 is used as;							
	A	Vector	B	Expression system	C	Restriction enzyme	D	Gene of interest
4	In fish, the gill pouches develop into;							
	A	Gills	B	Pharynx	C	Eustachian tube	D	Fins
5	All food chains and food webs begin with;							
	A	Primary consumers	B	Secondary consumers	C	Tertiary consumers	D	Producers
6	In temperate grasslands, the rate of primary productivity is annually;							
	A	4000 g/m ²	B	700 - 1500 g/m ²	C	500 - 700 g/m ²	D	2000 - 2500 g/m ²
7	The cause of stone cancer is;							
	A	Green house effect	B	Water pollution	C	Acid rain	D	Ozone depletion
8	Liver synthesizes;							
	A	Iron	B	Glycogen	C	Glucose	D	Bile
9	In juxtamedullary nephrons, addition capillaries extend down to form;							
	A	Peritubular capillaries	B	Vasa recta	C	Glomerulus	D	Loop of Henle
10	Vertebral column extends from skull to which region;							
	A	Neck	B	Thorax	C	Pelvis	D	Lumber
11	The disease which causes the fusion and immobility of vertebral joints is;							
	A	Spondylolysis	B	Sciatica	C	Rickets	D	Osteomalacia
12	Chemical nature of insulin and glucagon is;							
	A	Proteins	B	Amino acid derivatives	C	Steroids	D	Polypeptides
13	Germinating pollen grain is a rich source of;							
	A	Ethene	B	Gibberellins	C	Cytokinins	D	Auxins
14	In chick, the egg is fertilized as it passes through its;							
	A	Shell gland	B	Cloaca	C	Kidney	D	Liver
15	Acetabularia is a/an;							
	A	Fungus	B	Alga	C	Fern	D	Gymnosperm
16	In bacteria, human and all living organisms, AGA specifies;							
	A	Phenylalanine	B	Leucine	C	Methionine	D	Arginine
17	A period of extensive metabolic activity in which cell grows in size is;							
	A	G ₁	B	G ₂	C	G ₂	D	S

Note:- Attempt any TWENTY TWO (22) short questions in all selecting eight from Q. 2 and Q. 3 each and six from Q. 4. (22 x 2 = 44)

SECTION - I

2- Write short answers of any eight questions. (2 x 8 = 16)

1	What do you mean by Homeostasis?	2	What are xerophytes? Write their adaptations.
3	Differentiate between Osmoconformers and Osmoregulators.	4	What are collenchyma cells?
5	What is ribcage?	6	Name the types of cells associated with bones.
7	What is menopause? At what age is starts?	8	Define parthenocarpy with examples.
9	What are planktons? Give their types.	10	What do you mean by taiga?
11	What is ozone layer? Give its advantage.	12	What is acid rain?

3- Write short answers of any eight questions. (2 x 8 = 16)

1	What are the commercial applications of Auxin?	2	What is Neuroglia? Give its role.
3	Name the Hormones secreted by pancreas and their role.	4	What is Gene linkage?
5	Define Gene and Locus.	6	What are Sex-linked traits?
7	Compare Ex-vivo gene therapy with in-vivo gene therapy.	8	What are three possible ways to get a gene of interest for gene cloning?
9	Discuss Sanger's Method of Gene sequencing.	10	Define ecosystem.
11	Write down the significance of Root Nodules in plants.	12	Define parasitism and give one example.

4- Write short answers of any six questions. (2 x 6 = 12)

1	What are lateral meristems?	2	Explain regeneration in Salamander.
3	Name four types of Chromosomes.	4	What are Okazaki fragments?
5	What are non sense codons?	6	Write a note on Diakinesis.
7	What is Turner's Syndrome?	8	What is Genetic drift?
9	Explain Endosymbiont Hypothesis.		

SECTION - II

Note:- Attempt any three questions. (3 x 8 = 24)

- 5- (a) Describe the role of liver as a major homeostatic organ. (04)
 (b) Describe parasitic and mutualistic relationships in an ecosystem. (04)
- 6- (a) Define Antagonism. Discuss the phenomenon with the example of elbow joint. (04)
 (b) Define transcription. Discuss the detailed steps in prokaryotes. (04)
- 7- (a) Explain Feedback Mechanism. (04)
 (b) Write note on importance of Forests. (04)
- 8- (a) Explain about "Seed Dormancy". (04)
 (b) Define and explain Mendel's Law of Segregation. (04)
- 9- (a) What is regeneration? Explain it with the help of examples in different groups of animals. (04)
 (b) Describe Biogeography and molecular biology as an evidence of evolution. (04)

(The End)