Paper Code	2024 (1st-A)	Roll No: _____
Number: 4466	INTERMEDIATE PART-II (12th Class)	

BIOLOGY   PAPER-II   GROUP-II   *MTN-2-24*

TIME ALLOWED: 20 Minutes	OBJECTIVE	MAXIMUM MARKS: 17

Q.No.1 You have four choices for each objective type question as A, B, C and D. The choice which you think is correct, fill that bubble in front of that question number, on bubble sheet. Use marker or pen to fill the bubbles. Cutting or filling two or more bubbles will result in zero mark in that question.

S.#	QUESTIONS	A	B	C	D
1	Which one of these syndromes is rare X-linked recessive trait?	Color blindness	Testicular feminization	Hemophilia	Hypophosphatemic rickets
2	Bacterial cells take up recombinant DNA when treated with:	$CaCl_2$	DNA ligase	RNA polymerase	Bacteriophage
3	Luciferase enzyme is found only in:	Fruit fly	Dragon fly	Fire fly	Butterfly
4	The main cause of extinction of species is:	Pollution	Habitat destruction	Global warming	Parasitism
5	The relationship between insects and flowering plants is an example of:	Mutualism	Parasitism	Commensalisms	Predation
6	Which zone is rich in life in aquatic ecosystem?	Profundal zone	Limnetic zone	Littoral zone	All of these
7	Stone cancer is a result of _____ pollution.	Water	Soil	Sound	Air
8	Which one of these requires least amount of water for its elimination from body?	Creatinine	Uric acid	Ammonia	Urea
9	There are _____ muscles present in human body.	650	630	680	206
10	The action of venus flytrap is called:	Nytinasty	Photonasty	Thermonasty	Haptonasty
11	Nociceptors in our body are related with:	Vibration	Touch	Pain	Light
12	Which one of these hormones promotes flowering in pineapple?	Auxins	Ethene	Abscisic acid	Cytokinins
13	Which of these is present between uterus and vagina?	Urinogenital duct	Oviduct	Cervix	Fallopian tube
14	During chick development, nervous system arises from:	Ectoderm	Mesoderm	Endoderm	Coelom
15	In sickle cell anemia, valine is present in hemoglobin in place of:	Praline	Glutamine	Glutamic acid	Isoleucine
16	X-Ray diffraction analysis of DNA was performed by:	Erwin Chargaff	Rosalind Franklin	Watson and Crick	Frederick Miescher
17	In yeast, cell cycle is completed in:	9 hours	10 hours	4.5 hours	1.5 hours

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2024 (1st-A) INTERMEDIATE PART-II (12th Class)	Roll No: MTN-2-24

BIOLOGY   PAPER-II   GROUP-II

TIME ALLOWED: 2.40 Hours	SUBJECTIVE	MAXIMUM MARKS: 68

NOTE: Write same question number and its parts number on answer book, as given in the question paper.

SECTION-I

2. Attempt any eight parts. 8 × 2 = 16

(i)	How does aldosterone play its role in concentration of urine?
(ii)	What is special or unique feature of Malpighian tubules in insects?
(iii)	Why does temperature of body increase during fever?
(iv)	What is "All or None" response in muscle contraction?
(v)	How does exercise affect a muscle?
(vi)	How is pulvinus involved in sleep movements?
(vii)	How are identical twins produced?
(viii)	What do you know about the term oviparity?
(ix)	Write down any two properties of hydrospheric ecosystem.
(x)	Differentiate between Prairies and Savanna grasslands.
(xi)	How are solid wastes useful in overcoming energy crisis?
(xii)	Mention causes of Beriberi and Haemophilia.

3. Attempt any eight parts. 8 × 2 = 16

(i)	Define Habituation. Give two examples.
(ii)	Write the role of a hormone in regulation of bile and pancreatic juice secretion.
(iii)	Give the functions of sympathetic nervous system.
(iv)	What are compound sex chromosomes? Write one example.
(v)	Differentiate the sex-determination pattern in humans and birds.
(vi)	What are Pseudoautosomal genes? Give one example.
(vii)	What are Transgenic bacteria? Give their role in cleaning up beaches.
(viii)	How Transgenic bacteria are better than Transgenic animals?
(ix)	What is meristem culture? Write its one advantage.
(x)	Draw a flow sheet of an energy pyramid showing transfer of energy from producers to tertiary consumers.
(xi)	Differentiate between Primary and Secondary Succession.
(xii)	Define the terms habitat and niche.

4. Attempt any six parts. 6 × 2 = 12

(i)	Highlight the role of morphogenetic determinants during development of an individual.
(ii)	What do you know about discoidal cleavage?
(iii)	"Genetic code is universal but not quite universal" Justify this statement.
(iv)	How is lagging strand synthesized in the replication process?
(v)	What is point mutation? Give one example.
(vi)	Why interphase is called resting phase?
(vii)	How is Phragmoplast formed? Give its importance for future daughter cells.
(viii)	What are Hydrothermal vents?
(ix)	Differentiate between Divergent and Convergent evolution.

SECTION-II

NOTE: Attempt any three questions. 3 × 8 = 24

5.(a)	Explain thermoregulatory strategies in mammals.	4
(b)	Describe Necrosis and Apoptosis.	4
6.(a)	Explain process of repair of broken bones.	4
(b)	Write a note on Xerosere.	4
7.(a)	What is a Nerve Impulse? Discuss the major factors involved in Resting Membrane Potential.	4
(b)	Discuss major points of Darwin's theory of natural selection.	4
8.(a)	Enlist the names of different types of asexual reproduction in animals. Explain Parthenogenesis and its types.	4
(b)	Write a note on Erythroblastosis foetalis.	4
9.(a)	Discuss the role of nucleus in development by giving the example of Acetabularia?	4
(b)	Write a detailed note on Gene sequencing.	4

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