

BIOLOGY	Intermediate Part- II (12th) (1st A 425)	Paper: II	First Group
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 (8) questions.

(2x8 = 16)

- i - What are the adaptations of Hydrophytes?
- ii - What are contractile vacuoles? Write down their role.
- iii - How Kangaroo rat survives in desert?
- iv - Compare sclerenchyma with collenchyma.
- v - Give two main types of plant movements.
- vi - How pollen tube helps plants in land adaptations?
- vii - Define climacteric. What is its cause?
- viii - Differentiate between weather and climate.
- ix - What is meant by productivity of an aquatic ecosystem?
- x - What is nutation?
- xi - How would you define environment?
- xii - What is nutrient cycle? Which is the driving force behind these cycles?

3. Write short answers to any EIGHT (8) questions.

(2x8 = 16)

- i - Why progesterone is a constituent of birth control pill?
- ii - Define Nissl's granules?
- iii - What is the function of parathyroids?
- iv - Define true breeding varieties.
- v - How blood pressure is a multifactorial trait?
- vi - What is SRY gene? How it is transferred?
- vii - Give cause and treatment of cystic fibrosis patients.
- viii - What are palindromic sequences?
- ix - What are Bioreactors?
- x - What is Biome? Write names of some biomes.
- xi - Define Biosphere and Habitat.
- xii - Distinguish between Autecology and Synecology.

4. Write short answers to any SIX (6) questions.

(2x6 = 12)

- i - What are Neoblasts? How they are important in Regeneration?
- ii - Compare epiblast and hypoblast regarding development of chick.
- iii - What is promoter on DNA template strand? Write down two binding sites within the promoter.
- iv - How do specific amino acids bind with their respective tRNAs?
- v - What is a Nucleosome? What type of charges are there on the two components of Nucleosomes?
- vi - Write down two differences between Benign and Malignant tumor.
- vii - How is cytokinesis in plant cells different from that of animal cells?
- viii - Write down two measures to protect endangered species of an area.
- ix - Briefly write about Neo Darwinism.

SECTION – II

5 - (a) Write down a note on excretion in cockroach with the help of labelled diagram.

(4)

(b) Define mitosis. Describe various stages of Karyokinesis in animal cells.

(4)

6 - (a) Define secondary growth. Explain its significance.

(4)

(b) Discuss mutualism and commensalism with one example each.

(4)

7 - (a) Describe the endosymbiont hypothesis in support of evolution.

(4)

(b) Explain the commercial applications of Auxins and Gibberellins.

(4)

8 - (a) Discuss sexually transmitted diseases in humans.

(4)

(b) Describe the genetics of colour blindness in man

(4)

9 - (a) How do light and temperature affect plant growth?

(4)

(b) What are the key components required for successful PCR reaction and explain their role.

(4)

Roll No. of Candidate : _____

BIOLOGY		Intermediate Part- II (12 th) (1 st A 425-I)		Paper: II	Second Group
Time: 20 Minutes		OBJECTIVE Code: 8462		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 circle in front of the relevant question number. Use marker or pen to fill in the circles. Cutting or filling of two or more circles will result zero mark in that question.				
S. #	Questions	A	B	C	D
1	Which is Heterotherm?	Bat	Frog	Snake	Man
2	Sclerenchyma cells are highly lignified and found in	Epidermis	Cortex	Pith	Xylem
3	Which one is not a joint disease?	Arthritis	Disc slip	Spondylosis	Sciatica
4	All are related to medulla oblongata, except	Long Term Memory	Breathing Rate	Heart Beat Rate	Blood Pressure
5	Which one is not related to Auxins?	Promote cell division in cambium	Promote apical dominance	Induce Parthenocarp	Promote Abscission
6	Corpus luteum secretes a hormone called	Oestrogen	Oxytocin	Progesterone	Testosterone
7	Grey vegetal cytoplasm gives rise to	Larval epidermis	Gut	Muscle cells	Neural tube
8	Transfer of genetic material from one cell to another, which alter the genetic make up of recipient cell is called	Transformation	Translation	Transcription	Transduction
9	Unlike most proteins, Histones are	Positively charged	Negatively charged	Neutral	Discharged
10	The number of sets of microtubules originates from each pair of centrioles is	6	5	4	3
11	Secretors have dominant secretor gene Se on chromosome number	24	21	19	9
12	Genome fragments can be separated according to their length during the process	RFLPs	PCR	Cloning	Gel Electrophoresis
13	The production of many identical copies of a gene is	Translation	Cloning	Replication	PCR
14	Lyell published the principles of	Ecology	Geology	Palaeontology	Genetics
15	The total energy from sun trapped by producer in an ecosystem is	1 %	10 %	60 %	90 %
16	The average rainfall in temperate deciduous forest is between (mm)	600 – 1500	650 – 1500	700 – 1500	750 – 1500
17	Beri Beri is caused by	Infection	Physical disorders	Nutritional deficiency	Chemical causes

BIOLOGY	Intermediate Part-II (12th) (1st A 425)	Paper: II	Second Group
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 (8) questions.

(2x8 = 16)

- i - What are heat shock proteins? Give their role in plants to avoid the effects of high temperature.
- ii - Briefly write about urea cycle.
- iii - Skin of animals cannot be considered as excretory organ, justify.
- iv - Differentiate between epinasty and hyponasty.
- v - How do aerobic exercises make skeletal muscles more efficient and fatigue resistant?
- vi - What is foramen trioseum? Give its role in the flight of birds.
- vii - Write down the cause and symptoms of Genitel herpes.
- viii - How would you compare short day and long day plants.
- ix - What type of life is found in the profundal zone of fresh water lake ecosystem? Also write reason.
- x - Differentiate between Alpine and Boreal forests.
- xi - What is Geothermal energy? Give demerits of using it.
- xii - What is the cause of depletion of ozone layer? Also write the consequence of its depletion?

3. Write short answers to any EIGHT (8) questions.

(2x8 = 16)

- i - Justify, calcitonin is antagonistic of parathermone.
- ii - Differentiate between etiolated and chlorosis.
- iii - Write down chemical nature of hormones with suitable examples.
- iv - How epistasis is different from dominance?
- v - Differentiate between genome and gene pool.
- vi - Define probability. Give an example.
- vii - Write down three ways to get a gene.
- viii - What is anther culture? Give its significance.
- ix - Write down two applications of polymerase chain reaction.
- x - What happens when we remove predators from an ecosystem?
- xi - Define the term niche? Who proposed this term?
- xii - Differentiate between primary and secondary succession.

4. Write short answers to any SIX (6) questions.

(2x6 = 12)

- i - Compare Morulla with Blastula.
- ii - What changes occur during phase of maturation in plant growth?
- iii - Define point mutation. Give one example.
- iv - Write down names of different enzymes that synthesize m.RNA, t.RNA and r.RNA in Eukaryotes.
- v - What are okazaki fragment? Write their composition in prokaryotes and eukaryotes.
- vi - Write down some changes that take place during S.phase of interphase
- vii - Write down two differences between Mitosis and Meiosis.
- viii - Write down names of four species declared as extinct in Pakistan.
- ix - Write down two reasons that cause the species to be endangered.

SECTION – II

5 - (a) Describe cell cycle through illustrations.

(4)

(b) Explain the urinary system of man.

(4)

6 - (a) Describe different means of support in plants.

(4)

(b) Explain food chain and food web in detail.

(4)

7 - (a) Describe the primary functions of Thyroid Hormones in the human body.

(4)

(b) What is the endosymbiont hypothesis? How does it explain the origin of eukaryotic cells?

(4)

8 - (a) Explain reproductive system in human males.

(4)

(b) What are polygenic traits? Explain with the example of genetics of wheat grain colour.

(4)

9 - (a) Define embryonic induction. How does the organizer region play a role in embryonic induction?

(4)

(b) What are Transgenic Bacteria? Explain benefits of genetically modified bacteria in various industries.

(4)