

◆ COMMON QUARTERLY EXAM - 2024

Standard - XII

Time : 3.00 hrs

BIOLOGY**Marks: 70****Part - I Bio-Botany****Marks: 35****Section - I**

Choose the correct answer.

8×1=8

- Size of the Pollen grain in Myosotis
 - 10 Micrometer
 - 20 Micrometer
 - 200 Micrometer
 - 100 Micrometer
- In which techniques Ethidium Bromide is used?
 - Southern Blotting Technique
 - Western Blotting Technique
 - Polymerase chain reaction
 - Agrose gel electroporosis
- The genes controlling seven Pea characters studied by Mendel are known to be located in how many different chromosomes?
 - 7
 - 6
 - 5
 - 4
- Solidifying agent used in plant tissue culture is
 - EDTA
 - Agar
 - Nicotinic Acid
 - Colaltous chloride
- Identify the Test Cross
 - Tt×tt
 - TT×tt
 - Tt×TT
 - Tt×Tt
- Assertion (A) : Gamma rays are generally used to induce mutation in wheat varieties.
Reason (R) : Because they carry lower energy to non-ionize electrons from atom
 - (A) is wrong (R) is correct
 - (A) and (R) are correct
 - (A) and (R) are wrong
 - (A) is correct (R) is wrong
- Which of the following represent Megagametophyte?
 - Ovule
 - Embryosac
 - Nucellus
 - Endosperm
- Match the following:

Column A	Column B
1. Exonuclease	a) Add or Remove phosphate
2. Endonuclease	b) Binding the DNA fragments
3. Alkaline phosphatase	c) cut the DNA at terminus
4. Ligase	d) cut the DNA at middle
a) 1-a, 2-b, 3-c, 4-d	b) 1-c, 2-d, 3-b, 4-a
c) 1-a, 2-c, 3-b, 4-d	d) 1-c, 2-d, 3-a, 4-b

Section - II**Note: Answer any four questions:-****4×2=8**

- What is Pollenkit?
- Give the names of scientists who rediscovered Mendelism.
- Differentiate Linkage and Crossing over.
- What is Cantharophily?
- What is called Phytoremedialion?
- What are embryos?

Section - III**Note: Answer any three questions. Q.No.19 is compulsory:****3×3=9**

- Draw the structure of an ovule and label the parts.
- What is genetic mapping? Write its uses.
- Give an account on "Cryopreservation"?
- What are the seven characters of Pisum sativum studied by Mendel?
- What do you know about the word PBR 322?

Section - IV**Answer all the questions in detail:-****2×5=10**

- What is Endosperm? Explain the types.
 - Bring out the inheritance of chloroplast gene with an example. [or]
- What is single cell protein? Mention its applications? [or]
 - Explain the basic concepts involved in Plant Tissue Culture.

(2)

Part - II Bio-Zoology
Section - I

XII BIOLOGY

Marks: 35

Choose the correct answer.

8×1=8

- 1) The phenomenon of "Industrial Melanism" demonstrates
 - a) Reproductive isolation
 - b) Geographical isolation
 - c) Natural selection
 - d) Induced mutation
- 2) Chromosome 'y' has _____ genes
 - a) 231
 - b) 256
 - c) 531
 - d) 220
- 3) ZW-ZZ system of sex determination not occur in _____
 - a) Birds
 - b) Reptiles
 - c) Mammals
 - d) Fishes
- 4) Which one is incorrectly matched?

a) Multiload 375	-	Copper releasing IUD
b) Hormone releasing IUD	-	LNG-20
c) Lippes loop IUD	-	Non-medicated IUD
d) Saheli	-	Progestraset
- 5) The process which sperm undergoes before penetrating the ovum is
 - a) Spermiogenesis
 - b) Spermiation
 - c) Capacitation
 - d) Cortical reaction
- 6) Paedogenesis occurs in
 - a) Liverfluke
 - b) Cockroach
 - c) Earthworm
 - d) Vorticella
- 7) Assertion (A): Ovulation is the release of ovum from the Graffian follicles.
Reason(R): It occurs during the follicular phase of the menstrual cycle.
 - a) A is true R is false
 - b) A is false R is true
 - c) Both A and R are false
 - d) Both A and R are true
- 8) In eukaryotes which gene region has many AT
 - a) Terminator
 - b) Coding strand
 - c) Template strand
 - d) Promotor

Section - II

Note: Answer any four questions in very short:-

4×2=8

- 9) What is "Thelytoky"? Give an example.
- 10) Differentiate Spermiogenesis and Spermatogenesis
- 11) Expand the following: i) ZIFT ii) ICSI
- 12) What is Lyonisation?
- 13) What was the experimental proof of Meselson and Stahl?
- 14) Define Hardy-Weinberg law.

Section - III

Note: Answer any three of the following questions in brief. Q.No.19 is compulsory:

3×3=9

- 15) Differentiate between Divergent evolution and convergent evolution with one example for each.
- 16) Give the reasons for colour blindness.
- 17) How to prevent STDs?
- 18) Diagrammatic view of Female Reproductive system showing Uterus, Ovary and Fallopian Tube.
- 19) Distinguish between monocistronic and polycistronic condition of the structural gene.

Section - IV

Note: Answer the following questions in detail:

2×5=10

- 20) a) Explain the major reproductive events in human beings.
b) Tabulate any four viral STI and their causative agents and two symptoms each.
- 21) a) What is Karyotyping? Write the applications of Karyotyping.
b) Explain the experimental approach to the origin of life by Urey and Miller with suitable diagram.

[or]

[or]
