



## Standard 12 BIOLOGY

Time: 1.30 Hrs.

Marks: 50

### PART - I [BIO-BOTANY]

Marks: 25

#### Section - A

**I. Choose and write the correct answer with option code:**

5×1=5

1) **Match the following:**

- |                           |                   |
|---------------------------|-------------------|
| 1. Endothelium            | - a) Pollen grain |
| 2. Androecium             | - b) Antherwall   |
| 3. Male gametophyte       | - c) Asteraceae   |
| 4. Primary parietal layer | - d) Stamens      |

- |          |          |          |          |          |          |          |          |
|----------|----------|----------|----------|----------|----------|----------|----------|
| <b>1</b> | <b>2</b> | <b>3</b> | <b>4</b> | <b>1</b> | <b>2</b> | <b>3</b> | <b>4</b> |
| a) d     | a        | b        | c        | b) c     | d        | a        | b        |
| c) c     | d        | b        | a        | d) c     | a        | d        | b        |

2) **Identify the correct pair:**

- |                         |           |
|-------------------------|-----------|
| a) Dihybrid cross       | - 1:2:1   |
| b) Monohybrid cross     | - 9:3:3:1 |
| c) Incomplete dominance | - 1:2:1   |
| d) Dominant Epistasis   | - 9:3:4   |

3) Arrange the layers from locus to periphery.

- a) Epidermis, middle layers, tapetum, endothecium
- b) Tapetum, middle layers, epidermis, endothecium
- c) Endothecium, epidermis, middle layers, tapetum
- d) Tapetum, middle layers, endothecium, epidermis

4) What is the phenotype of wheat Kernal colour for the geno type:

 $R_1R_2r_2r_2$ 

- |               |                    |
|---------------|--------------------|
| a) Dark red   | b) Medium dark red |
| c) Medium red | d) Light red       |

5) The term crossing over was coined by \_\_\_\_\_.

- |             |               |           |                |
|-------------|---------------|-----------|----------------|
| a) T-Boveri | b) W.S.Sutton | c) Morgan | d) Mont gomery |
|-------------|---------------|-----------|----------------|

#### Section - B

**II. Answer ANY THREE questions:**

3×2=6

- 6) Draw and label the structures of Pollen Grain.
- 7) What is stomium?
- 8) Define coupling.
- 9) Inheritance of chloroplast and mitochondria characters are non-mendelian inheritance pattern - Why?
- 10) What are Multiple Alleles?

#### Section - C

**III. Answer ANY THREE questions:**

3×3=9

- 11) A detached leaf of Bryophyllum produces a new plants - How?
- 12) Why Mendel did reciprocal cross? Give example.
- 13) Distinguish linkage and crossing over.
- 14) Write any three functions of tapetum.
- 15) What are the reason for Mendel's success in his breeding experiment?

#### Section - D

1×5=5

16) Explain the mechanism of crossing over.

(OR)

What is endosperm? Explain the types.

## Section - I

## I. Note: Answer all the questions.

5×1=5

- 1) Colostrum is rich in
  - a) IgE
  - b) IgA
  - c) IgD
  - d) IgM
- 2) Which one of the following groups includes sexually transmitted diseases caused by bacteria only?
  - a) syphilis, gonorrhoea and candidiasis
  - b) syphilis, chlamydiasis and gonorrhoea
  - c) syphilis, gonorrhoea and trichomoniasis
  - d) syphilis, trichomoniasis and pediculosis
- 3) In which type of Natural Parthenogenesis will take place in Apis type of Honey bees?
  - a) Thelytoky
  - b) Amphitoky
  - c) Arrhenotoky
  - d) a and c
- 4) Match Column I and II and select the correct option from the codes given below:
 

Column I	Column II
A) Copper releasing IUD	i) LNG 20
B) Hormone releasing IUD	ii) Lippes loop IUD
C) Non medicated IUD	iii) Saheli
D) Minipills	iv) Multiload - 375
a) A-iv, B-ii, C-i, D-iii	b) A-iv, B-i, C-iii, D-ii
c) A-i, B-iv, C-ii, D-iii	d) A-iv, B-i, C-ii, D-iii ✓
- 5) Females with Turner's syndrome have
  - a) Small uterus
  - b) Rudimentary ovaries
  - c) Under developed breasts
  - d) All of these

## Section - II

## II. Answer ANY THREE questions:

3×2=6

- 6) Differentiate Foeticide from Infanticide.
- 7) Draw and label the parts of human sperm cell.
- 8) What is ovulation? In which day of menstrual cycle the takes place?
- 9) What is Paedogenesis? Give an one example.
- 10) Write two parts of Non disjunction 'Y' chromosome region. Sex determining region 'Y' present in which part of it?

## Section - III

## III. Answer ANY THREE questions:

3×3=9

- 11) What is seminal plasma? Write it uses.
- 12) How is juvenile phase different from reproductive phase?
- 13) Why scrotum is called as a thermo regulator?
- 14) In the XY chromosomal system of sex determination of males have 2 'X' chromosome and male have one 'X' chromosome. How does the organisms compensate for this dosage of difference between the sexes?
- 15) Write the name of causative agent of syphilis diseases. Write the symptoms of diseases in Tertiary stage.

## Section - IV

## IV. Answer the following questions:

1×5=5

- 16) What are the major tasks carried out under reproductive and child health care programme? Explain briefly.

(OR)

Write the name of the extra embryonic membranes around human embryo. How it is protect the embryo?