

Roll No.....

E-21-Y

Total No. of Questions : 11]

[Total No. of Printed Pages : 3

XIIRKN16

11021-Y

BOTANY

(Biology)

Time : 1½ Hours]

[Maximum Marks : 35

(Long Answer Type Questions)

5 each

1. Which Mendel's law of inheritance is universally accepted and without any exception. State the law with an example.

Or

- (a) Who proposed the concept of lac operon ?
- (b) Draw labelled schematic representation of lac operon.
- (c) Explain how does this operon get switched 'on' and 'off'.
2. Describe the components of an ecosystem.

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Turn Over

Or

- (a) What are hotspots of Biodiversity ?
- (b) List main four criteria of determining a particular place as a hotspot.
- (c) Among the hotspots of world, list two which are located in India.

(Short Answer Type Questions)

3 each

- 3. Draw the vertical section of Maize grain and label :
 - (a) Pericarp
 - (b) Scutellum
 - (c) Coleoptile
 - (d) radicle.
- 4. In *pisum sativum*, the pods may be inflated (I-dominant) or constricted (i-recessive). What proportion of the offspring in the following cross would be expected to be inflated ?
 - (a) $II \times ii$
 - (b) $Ii \times ii$
 - (c) $II \times II$
- 5. Do you think microbes can also be used as source of energy ? If yes, how ?
- 6. Distinguish between ectoparasite and endoparasite.

(Very Short Answer Type Questions)

2 each

Q. Who did discover double fertilization and in which plants ?

Q. Define :

(a) Hybridization

(b) Hardening

Q. What is Ecology ? Who coined the term ?

Q. Differentiate between in Situ and Ex-situ conservation of biodiversity.

(Objective Type Questions)

1 each

11. (i) Define Apomixis.

(ii) Number of meiotic divisions required to produce 200 seeds of pea would be :

(a) 200

(b) 400

(c) 300

(d) 250

(Choose the correct one)

(iii) Beer, wine and whisky are non-alcoholic beverages.

(True/False)

(iv) Insect pollinated flowers are called

(Fill in the blank)

(v) An unorganised undifferentiated mass of actively dividing cells is called as.