

Total NO. of Questions : 11]

[Total No. of Printed Page

XIIRKN16

11021-X

**BOTANY**  
**(Biology)**

Time : 1 ½ Hours]

[Maximum Mar

(Long Answer Type Questions)

5

Which Mendel's law of inheritance is universally accepted and without any exception. State 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'.

Describe the components of an ecosystem.

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 X ii
  - (b) Ii x ii
  - (c) II x II
5. Do you think microbes can also be used as source of energy ? If yes, how ?
6. Distinguish between ectoparasite and endoparasite.

XIIRKN16-11021-X

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