

(i) Printed Pages : 4 Roll No.

(ii) Questions : 9 Sub. Code :

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Exam. Code :

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Bachelor of Science (FYUP) 4th Semester

(2056)

BOTANY

Paper : Reproductive Biology of Angiosperms

(Common with B.Sc. Bio-Technology 4th Sem. FYUP)

Time Allowed : Three Hours] [Maximum Marks : 67

Note :- Attempt five questions in all, including Question No. I which is compulsory and selecting one question from each Unit.

I. (a) Multiple Choice Question (MCQ), choose the correct option:

(i) Flowers, Fruits and Seeds are:

(a) Vegetative organs (b) Reproductive organs

(c) Accessory organs (d) Fundamental organs

(ii) The hypanthodium inflorescence require _____ pollinators

(a) Wasp (b) Bird

(c) Bat (d) None of these

- (iii) In monocot seeds, the single cotyledon is known as:
- (a) Scutellum (b) Coleoptile
(c) Coleorhiza (d) Aleurone layer
- (iv) _____ are special type of fleshy buds that develop in aquatic plants.
- (a) Bulbils (b) Tubers
(c) Runners (d) Turions
- (v) Geitonogamy is a characteristic of:
- (a) Monoecious plants
(b) Dioecious plants
(c) Both monoecious and dioecious plants
(d) None of these
- (vi) The arrangement of flowers is basipetal and centrifugal in:
- (a) Racemose inflorescence
(b) Cymose inflorescence
(c) Verticillaster
(d) Cyathium
- (vii) Embryo sac is located inside _____.
- (a) Stigma (b) Ovule
(c) Micropyle (d) Style

(viii) Filliform apparatus is a characteristic feature of:

- (a) Generative cell (b) Nucellar Embryo
(c) Aleurone Cell (d) Synergids

(b) Fill in the blanks:

(ix) _____ is a ripened ovule.

(x) _____ is the artificial means of vegetative propagation.

(xi) _____ is raised by tubers and not seeds.

(xii) _____ is the second whorl of the floral leaves.

(xiii) A modified raceme in which all the flowers come to same level due to lower flowers with much elongated pedicels is _____.

(xiv) Pollen intine is made up of _____.

(xv) The condition of bisexual plants in which anthers and stigma mature at same time is called _____. 15×1

UNIT-I

II. (a) Give a detailed account of structure of an anther.

(b) Differentiate between Racemose and Cymose inflorescence. 6.5 + 6.5

III. (a) Give a brief account of parts of a flower with their functions.

(b) Discuss Racemose inflorescence in detail. 6.5 + 6.5

UNIT-II

- IV. (a) Explain Anemophily in detail.
- (b) Differentiate between Autogamy and Geitonogamy. 9 + 4
- V. (a) Distinguish between self-pollination and cross pollination.
- (b) Explain Entomophily in detail. 6.5 + 6.5

UNIT-III

- VI. (a) Explain in detail the development of male gametophyte.
- (b) Distinguish between non-endospermic and endospermic seeds. 9 + 4
- VII. (a) Explain the structure of a dicot seed.
- (b) Explain the structure of a typical ovule. 6.5 + 6.5

UNIT-IV

- VIII.(a) Explain in detail the methods of layering as means of propagation in plants.
- (b) Discuss various types of underground stems as means of vegetative propagation. 6.5 + 6.5
- IX. (a) Explain micropropagation. Give significance of vegetative propagation.
- (b) Define vegetative propagation. Explain the process of grafting in detail. 6.5 + 6.5