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Exam. Code : 107401
Subject Code : 2230

B.Sc. Biotechnology I[st] Semester

BT-2 : BOTANY-A

Time Allowed—3 Hours] [Maximum Marks—40

Note :– Attempt **all** questions from Section-A, **five** questions from Section-B and **two** questions from Section-C. Be brief and to the point in your answers.

SECTION–A

1. Give very short answers, not exceeding about **1/3** of a page, to each of the following questions. Each question carries **1** mark.

   (a) Which part of the short apex refers to plerome ? Comment upon its function.

   (b) What do you understand by ring porus and diffuse porus wood ? Explain giving one example each.

   (c) Name the most common type of embryo sac in the ovules of angiosperms. Comment upon its structural peculiarities.

   (d) How does parthenogenetically developed embryo differs from apogamously developed embryo ?

   (e) Define Herkogamy. Comment upon its biological significance.

   (f) Comment upon the disadvantages of autogamy.

   (g) Compare the gynoecium of family solanaceae with that of family Liliaceae.

   (h) Explain the phenomenon of triple fusion and double fertilization.

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SECTION–B

2. Give answers of upto **2** pages for any **five** of the following questions. Each such question carries **4** marks.

   (a) Give an illustrated account of the Tunica-Corpus theory so as to explain the apical organization of the shoot.

   (b) Comment upon the various anomalies that are generally found in the internal structure of Dicot stems. Give an illustrated account of the *Nyctanthes* stem depicting anomalous peculiarities.

   (c) Give an account of various stages in the development of male gametophyte.

   (d) Give an illustrated account of the development of endosperm.

   (e) Give an account of the structure and dehiscence of anther. http://www.gnduonline.com

   (f) Write explanatory note on each of the following :

      (i) Aestivation

      (ii) Floral symmetry.

   (g) Write diagnostic characters of family Rutaceae and Solanaceae.

   (h) Write brief notes on each of the following :

      (i) Male sterility

      (ii) Advantages of cross pollination.

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SECTION–C

3. Attempt any **two** of the following questions. Answer to each such question should not exceed **5** pages and each question will carry **6** marks.

(a) Define secondary growth. Give an illust rated account of formation of secondary vascular tissue in the stem of *Helianthus annuus*.

(b) Define polyembryony. Give an illustrated account of development of multiple embryos in dicots.

(c) Give an illustrated account of development of megasporangium and megagametophyte in a typical dicot plant.

(d) Write short notes on the following :

(i) Self-incompatibility

(ii) Secondary growth in a typical dicot root.

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