Reg. No. : .....

Name : .....

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B – 3088

First Semester B.Sc. Degree Examination, December 2016
First Degree Programme Under CBCSS
BOTANY
BO 1141 : Angiosperm Anatomy, Reproductive Botany and Palynology
(2014 Admission Onwards)

Time : 3 Hours

Max. Marks : 80

All Saints' College Trivandrum

I. Write short notes on the following. **All** questions are **compulsory**.

1) Apical cell theory
2) Endothecium
3) Tyloses
4) Lenticels
5) Tapetum
6) Pollen mitosis
7) Nucellus
8) Palisade
9) Raphides
10) Polar nuclei.

(10×1=10 Marks)

II. Answer **any eight** of the following.

11) What are lenticels ? What is their function ?
12) Describe with diagrams any two types of thickenings in tracheids.
13) Describe quiescent centre with suitable diagrams.
14) Illustrate the structure of a vascular bundle present in monocots.
15) Write a note on double fertilization.
16) Describe the structure and function of cambium.
17) Differentiate between ring porous wood and diffuse porous wood.

P.T.O.

18) Describe pollen apertures.

19) Differentiate between the endosperms of Angiosperms and Gymnosperms.

20) What is nuclear endosperm ?

21) Draw pictures of any three kinds of simple tissues.

22) Describe apical meristem according to histogen theory. **(8×2=16 Marks)**

III. Answer **any six** of the following.

23) Enumerate any six differences between monocot stem and dicot stem.

24) Write a short note on pollen maturation.

25) Describe the internal structure of a dicot leaf. Draw diagrams.

26) Describe bisporic type of embryo sac formation.

27) Describe the components of a typical vascular bundle.

28) Illustrate the structure of a typical embryo sac.

29) Write a note on pollen allergy.

30) Explain various theories of root apex.

31) Write a short note on exine formation. **(6×4=24 Marks)**

IV. Write essay on **any two** of the folowing.

32) Describe the anomalous secondary thickening in *Boerhaavia* with labelled diagrams.

33) Write an essay on anther development including microsporogenesis.

34) What are the various types of endosperm formation in dicots ? Describe each with neat and labelled diagrams.

35) Write the process of embryo development. Add a note on the nutrition of developing embryo. **(2×15=30 Marks)**

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