

First Semester B Sc Degree Examination November/ December 2013

First Degree Programme under CBCSS

BOTANY

Core Course- 1

BO1141: Methodology and Perspectives of Sciences.

(2013 Admn)

Time: 3 hrs

Marks : 80

I Answer the following **.All questions are compulsory**

1. Pure science and applied science
2. Pie diagram
3. Hypothesis
4. Pseudoscience
5. Practical Knowledge
6. Histogram
7. Ordinal data
8. Empiricism
9. Adhoc Hypothesis
10. Corroboration

(10X 1= 10 marks)

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

11. What do you understand by scientific temper?
12. What are dangers of preconceived ideas in scientific research?
13. What is a scientific theory? Give one example.
14. Give four examples of model organisms used in biological research?
15. What are the features of a good and valid hypothesis?
16. Differentiate primary and secondary data.
17. What is the importance of documentation and record keeping in scientific research?
18. Explain qualitative data with example.
19. Differentiate scientific theory and Scientific law
20. "Science does not rest upon solid bed rock, it is like a building erected on piles". Is this statement true or false? Give reason for your answer.

21. What do you understand by chronological classification of data?
22. What is the significance of tabulation in treatment of statistical data?

(8X2=16marks)

III Answer **any six** of the following

23. Write a note on revolution in modern science.
24. What are the different types of knowledge?
25. Hypothesis, theory and law, these words does not mean the same thing and cannot be used interchangeably. Is this statement true or false? Explain your answer.,
26. What is the necessity of using controls in an experiment? Explain with example the positive and negative controls used in an experiment.
27. Differentiate simulation and virtual testing used in science.
28. Explain hypothetico-deductive model of formulation of a hypothesis.
29. Describe with examples inductive and deductive logic.
30. Cell theory states that all living things are made up of cells. Why is this theory not considered as a law?
31. Write a note on different depositories of scientific information.

(6X4=24marks)

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

32. What is meant by ethics in science? Discuss the need for applying ethics in scientific research. Write a note on different ethical principles a researcher should follow while doing research.
33. Why is data represented diagrammatically and graphically? What are its advantages? Explain the different methods of diagrammatic and graphic representation of data.
34. Explain the different steps in the Scientific method used in Science
35. Write a note on different types of experiments. Give a detailed account on how an experiment can be designed.

(2X15=30 marks)

First Semester B Sc Degree Examination in Home Science, Zoology & Biochemistry

November/ December 2013

First Degree Programme under CBCSS

BOTANY

Complementary Course- 1

BO1131: Microbiology, Phycology, Mycology, Lichenology, Bryology, Pteridology, Gymnosperms, Plant Pathology

(For Home Science, Zoology & Biochemistry)

(2013 Admission)

Time: 3 hrs

Total Marks :80

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

1. Hetrothallism
2. Amylum stars
3. Protonema
4. Plasmid
- 5 . Agar agar
6. Peristome
7. Cleistothecium
8. Ovuliferous scale
9. Heterospory
10. Solenostele

(10X 1= 10 marks)

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

11. Comment on yellow vein mosaic of Lady's finger
12. What is zygospore?
13. Briefly explain asexual reproduction in *Volvox*?
14. Explain general characters of pteridophytes
15. Write short notes on mycoplasma .

16. Give an account on gametophyte of *Polytrichum*
17. Describe the structure of apothecium of *Peziza*.
18. Write about long shoot and dwarf shoots in *Pinus*.
19. Give an note on the sporophyll of *Adiantum*
20. Give an account on archegonial cluster in *Polytrichum*
21. Write a note on asexual reproduction in *Penicillium*.
22. Write an note on habit of *Selaginella*

(8X2=16marks)

III Answer **any six** of the following

23. Describe the characteristic features of Ascomycetes .
23. Explain the structure of capsule in *Polytrichum*
- 24 Structure and replication method in bacteriophage..
25. Write about thallus organization in *Riccia*
26. Write the causative organism, symptoms and control measures of Blast disease of paddy.
27. Explain internal structure of *Pinus* needle.
28. Illustrate internal structure of rhizome in *Adiantum*.
- 29 Explain the structure of cone in *Selaginella*.
30. Explain the sexual reproduction in Nanandrous species of *Oedogonium*
31. Write notes on economic Importance of Fungi

(6X4=24marks)

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

32. Describe the life history of *Puccinia* on alternate host? Name three diseases caused by the fungus on wheat plant?
33. Illustrate internal structure and reproduction in *Selaginella*
34. Explain the lifecycle of *Polysiphonia*?
35. Explain life cycle of *Pinus* with the help of labelled diagrams .

(2X15=30 marks)