(c) L.S of sporophyte of *Anthoceros*

(d) T.S. of internode of *Equisetum*

4. Write short notes **(any three)** : (3×5=15)

(a) Bacterial conjugation

(b) Economic importance of Algae

(c) Gemma cup of *Marchantia*

(d) Heterospory and seed habit in *Selaginella.*

5. (a) Briefly describe the general characteristics of gymnosperms and discuss the reproduction in *Pinus.* (10)

(b) Why Pteridophytes are better adapted to dry land than Bryophytes. (5)

6. (a) Discuss the stages of life cycle of *Puccinia* on *Berberis* host along with its symptoms. (8)

(b) Explain with illustration the sexual reproduction of *Vaucheria.* (7)

1 DEC

[This question paper contains 4 printed pages.]

Your Roll No.....

Sr. No. of Question Paper : 1490

Unique Paper Code : 42161101

Name of the Paper : Biodiversity (Microbes, Algae, Fungi and Archegoniatae)

Name of the Course : **B.Sc. (Prog.) Life Science (CBCS)**

Semester : I

Duration : 3 Hours Maximum Marks : 75

Instructions for Candidates

1. Write your Roll No. on the top immediately on receipt of this question paper.
2. Attempt **five** questions in all, including question number **1**, which is compulsory.
3. **All** questions carry equal marks.
4. **All** parts of a question must be answered together.
5. Draw diagrams wherever required.

1. (a) Define the following **(any five)** : (1×5=5)

(i) Pseudoelaters

(ii) Heterocysts

(iii) Cleistothecium

(iv) Uredospores

(v) Transduction

(vi) Gemma cups

(vii) False indusium

(viii) Transfusion Tissue

(b) Match the following : (1×5=5)

(i) Cup shaped chloroplast	(a) *Selaginella*
(ii) Glossopodium	(b) *Cycas*
(iii) Accessory transfusion tissue	(c) *Pinus*
(iv) Ovuliferous scale	(d) *Alternaria*
(v) Multicellular Conidia	(e) *Chlamydomonas*

(c) Fill in the blanks : (1×5=5)

(i) Chilgoza is obtained from .....

(ii) Viruses comprise of nucleic acid as central and protein coat called .....

(iii) Horse tail is the common name of .....

(iv) Winged Pollen grain occurs in .....

(v) Perfect stage of *Penicillium* is called .....

2. Differentiate between the following (**any five**) : (5x3=15)

(a) Antheridiophore and Archegoniophore of *Marchantia*

(b) Transformation and Transduction in Bacteria

(c) Lytic and Lysogenic cycle

(d) Long and Dwarf shoots of *Pinus*

(e) Mega and Microsporangium of *Selaginella*

(f) Ectomycorrhiza and Endomycorrhiza

(g) Ascomycetes and Basidiomycetes

3. Draw well labelled diagram (**any three**) : (3×5=15)

(a) E.M of *Chamydomonas*

(b) L.S of ovule of *Cycas*