This question paper contains **4** printed pages]

Roll No. | | | | | | | | | | | |

S. No. of Question Paper : **1431**

Unique Paper Code : **2161301** **F-7**

Name of the Paper : **Archegoniatae**

Name of the Course : **B.Sc. (Hons.) Botany FYUP**

Semester : **III**

Duration : **3 Hours** Maximum Marks : **75**

(Write your Roll No. on the top immediately on receipt of this question paper.)

Attempt *Five* questions.

Question No. **1** is compulsory.

Support your answers with well labelled diagrams.

All parts of a question must be answered together.

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

(*i*) Prothallus

(*ii*) Protonema

(*iii*) Elater

(*iv*) Cleavage Polyembryony

(*v*) Gemma

(*vi*) Synangium.

P.T.O.

(*b*) Fill in the blanks (any *five*) : 5×1=5

(*i*) Pseudoelaters are observed in ..... .

(*ii*) Horse-tail belongs to the family ..... .

(*iii*) ..... is called chilgoza pine.

(*iv*) *Rhynia* was discovered by ..... and ..... .

(*v*) The food conducting cells in some mosses are called ..... .

(*vi*) Botanical name of Bog moss is ..... .

(*c*) Name the plant in which the following are present (any *five*) : 5×1=5

(*i*) Trabeculae

(*ii*) Antheridiophore

(*iii*) Eccentric growth rings

(*iv*) Circinate vernation

(*v*) Peristome

(*vi*) Transfusion tissue.

2. Draw neat labelled diagrams of the following (any *three*) : 5×3=15

(*i*) L.S. strobilus of *Equisetum*

(*ii*) L.S. sporophyte of *Funaria*

(*iii*) T.S. needle of *Pinus*

(*iv*) V.S. Leaflet of *Cycas*.

3. Differentiate between (any *five*) : 5×3=15

(*i*) Rhizoids of *Marchantia* and *Funaria*

(*ii*) Apogamy and Apospory

(*iii*) Manoxylic and Pycnoxylic wood

(*iv*) Male cone and Female cone of *Pinus*

(*v*) Spore bearing organs of *Selaginella* and *Equisetum*

(*vi*) Gametophyte of *Porella* and *Anthoceros*.

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

(*i*) Coralloid roots

(*ii*) Telome theory

(*iii*) Vegetative reproduction in *Marchantia*

(*iv*) Xerophytic and hydrophytic adaptations in *Equisetum*

(*v*) Ecological importance of Bryophytes.

5. (*a*) Describe the Stelar evolution in Pteridophytes. 8

(*b*) Why bryophytes are regarded as amphibians of Plant Kingdom ? Discuss the adaptations of bryophytes for land habit. 7

6. (*a*) Cycas is a living fossil. Comment. 4

(*b*) What is heterospory ? What is its biological significance ? 4

(*c*) Discuss the structure of sporophyte of *Pteris* with the help of diagrams. 7

7. (*a*) Write an explanatory note on economic importance of Gymnosperms. 10

(*b*) Discuss briefly the evolutionary significance of sporophyte of *Anthoceros*. 5