



UNIVERSITY OF THE PUNJAB

B.S. 4 Years Program : Fifth Semester – 2020

Paper: Evolutionary Trends in Trachaeophytes

Course Code: BOT-305 Part – I (Compulsory)

Time: 15Min. Marks: 10

Roll No. in Fig.

Roll No. in Words.

Attempt this Paper on this Question Sheet only.

Division of marks is given in front of each question.

This Paper will be collected back after expiry of time limit mentioned above.

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Signature of Supdt.:

Q.1. Encircle the right answer cutting and overwriting is not allowed. (10x1=10)

- 1) The **Leaves** which bear **sporangia** are called;
a. Sporophyll b. Bract c. Cone d. Strobilus
- 2) The process of **double fertilization** is unique and found only in;
a. Gymnosperms b. Cycads c. Angiosperms d. Ferns
- 3) Which of the following **tissues** makes up the majority of the interior of the plant?
a. Ground tissue b. Meristematic tissue c. Vascular tissue d. Epidermal tissue
- 4) **Evolution** can be defined as;
a. Negative process b. Gradual change in characters c. Descend with change
d. Destructive change
- 5) **Trachaeophytes** are the plants with;
a. Large stems b. Epidermis c. Xylem and Phloem d. Seeds
- 6) Which of the following is not a **Leptosporangiate Fern**?
a. *Dryopteris* b. *Adiantum* c. *Marattia* d. *Pteris*
- 7) **Microphylls** were first evolved in;
a. Psilophyta b. Lycophyta c. Sphenophyta d. Ferns
- 8) Stems mostly equipped with **ridges** and **furrows** are characteristic for;
a. Ferns b. *Dioon* c. Sphenopsids d. *Abies*
- 9) Synangium of ***Tmesipteris*** is ;
a. Trilobed b. Bilobed c. Tetralobed d. None
- 10) The stele that have pith, with xylem and phloem forming a continuous cylinder around the pith;
a. Protostele b. Siphonostele c. Eustele d. Dictyostele



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Paper: Evolutionary Trends in Tracheophytes
Course Code: BOT-305 Part – II

Time: 2 Hrs. 45 Min. Marks: 50

ATTEMPT THIS (SUBJECTIVE) ON THE SEPARATE ANSWER SHEET PROVIDED

Q.2. Give short answers of the following:

(10x2=20)

- i. Differentiate between **ATRACHEOPHYTES** and **TRACHEOPHYTES** with suitable examples.
- ii. Define **HETEROSPORY**. What is its importance?
- iii. Differentiate between **LEPTOSPORANGIATE** and **EUSPORANGIATE** Ferns.
- iv. What do you know about **EARLY VASCULAR LAND PLANTS**?
- v. Differentiate between **EXARCH** and **END XYLEM** with the help of neat and labeled diagram(s) and examples.
- vi. Name any four **LIVING GENERA OF LYCOPHYTA**.
- vii. Enlist any four synthetic characters of **PSILOPHYTA**.
- viii. How do **POLLEN** differ from **SPORES**?
- ix. What makes **GNETALES** most important among **GYNMOSPERMS**?
- x. Highlight the status of **MALE GAMETOPHYTE** in **ANGIOSPERMS**.

Q.3. Give brief answers of the followings.

(3x10=30)

1. Highlight the Synthetic Characters of **PSEUDOBORNIALES** and **PLEUROMIALES** along with their **EVOLUTIONARY IMPLICATIONS**. Give examples. **(10 marks)**.
2. Write a comprehensive note on the **ORIGIN OF ANGIOSPERMS** along with theories supporting such a phenomenon. **(10 marks)**
3. **HETROSPORY** is the step towards **SEED HABIT**. How? Explain with evidences. **(10 marks)**