



# UNIVERSITY OF THE PUNJAB

B.S. 4 Years Program / Sixth Semester – 2020

Paper: Palynology (Advance Course)

Course Code: BOT-317 Part – I (Compulsory)

Time: 15 Min. Marks: 10

Roll No. in Fig. ....

Roll No. in Words. ....

Signature of Supdt.: .....

**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.**

Q.1. Encircle the correct choice.

(10x1=10)

I. Hyde and Williams introduced the term

- a. Palynology   b. Paleopalynology   c. Paleontology   d. Neopalynology

II. The size of **Megaspore** is:

- a. 200um-500um   b. 100um-200um   c. 300um-400um   d. 400um-500um

III. **Columellae** are rod shaped elements constituent part of

- a. Intine   b. Exine   c. Ektexine   d. cell wall

IV. **Melissopalynology** is the study of pollen in:

- a. Molasses   b. Honey   c. Air   d. Water

V. **Wheat** is an example of

- a. Cleistogamous Plants   b. Chasmogamous Plants   c. Autogamous Plants   d. Zoophilous Plants

VI. **Infraturma** is based on major \_\_\_\_\_ differences:

- a. Morphological   b. Structural   c. Functional   d. Sculptural

VII. Manum suggested the term **palynodebris** for

- a. Carbonized palynomorphs   b. non carbonized palynomorphs   c. Pollen and spores   d. both a & b

VIII. Term **Pollenites** refers to:

- a. Anteturma   b. Turma   c. Supraturma   d. Subturma

IX. **Sporopollenin** is a close relative of

- a. Chitin   b. Pseudochitin   c. Cellulose   d. Dinosporin

X. **Spores** without **haptotypic marks** are called

- a. Embryophytic spores   b. Microspores   c. Megaspores   d. Cryptospores



**ATTEMPT THIS (SUBJECTIVE) ON THE SEPARATE ANSWER SHEET PROVIDED**

**Q.2 Answer the following short questions. (2x10)**

- I. Define **Palynomorphs**. Enlist various categories of Palynomorphs.
- II. What are **nanofossils**?
- III. How the colour of fossilized Pollen and Spores can be used to determine **Organic Thermal Maturity** of Rocks?
- IV. **Air borne pollen** are major source of **Allergies and Asthama** in human population. How the field of Palynology can help in identification and cure of these diseases?
- V. Write a note on **Archaeopalynology**.
- VI. What are **Concordant Palynomorphs**?
- VII. How Paleopalynology does help in reconstruction of **Paleovegetation** and **Paleoclimatic Changes** of a particular locality?
- VIII. What do these codes indicate about spores and pollen:  
**SOO, Scz, PO1, Pop.**
- IX. Differentiate between **Scabrate** and **Gammate Exine**.
- X. Describe **Pressure Tube Technique** for single grain mounting.

**Answer the following Long Questions. (10x3)**

- Q.3: Describe in detail **Production and Dispersal** of Pollen and Spores. (10 Marks)
- Q.4: a) What do you know about **Turmal System**? (05 Marks)  
b) Explain **demineralization and oxidation** during maceration. (05 Marks)
- Q.5: What do you know about **Exine Ultra Structure**? Discuss in detail various systems used for classification of exine stratification. What do you know about **Exine Ultra Structure**? Discuss in detail various systems used for classification of exine stratification. (10 Marks)