



UNIVERSITY OF THE PUNJAB

B.S. 4 Years Program / Sixth Semester – 2019

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.

(1x10=10)

- I. The field of **Palynology** concerned with extant **palynomorphs** is called
 - a. Palaeopalynology
 - b. Neopalynology
 - c. Archaeopalynology
 - d. Palaeontology
- II. **Palynomorphs** are organic walled whole organisms or parts of organisms range in size from
 - a. 5um-200um
 - b. 5um-300um
 - c. 5um-500um
 - d. 5um-50um
- III. _____ rocks are rich in Palynomorphs.
 - a. Igneous
 - b. Sedimentary
 - c. Intrusive
 - d. Metamorphic
- IV. Palynological preparations contain more or less **organic "Junk"** not referable to specific palynomorphs:
 - a. Varia
 - b. Palynodebris
 - c. Palynofacies
 - d. Organic matter
- V. The fossil mouth parts of annelids are _____ in nature.
 - a. Cellulose
 - b. Chitin
 - c. Sporopollenin
 - d. Murien
- VI. A **pollen grain** is a
 - a. male gamete
 - b. female gamete
 - c. microgametophyte
 - d. germinate to grow into microgametophyte
- VII. **Trilete and Monolete spores** are produced by
 - a. Angiosperms
 - b. Gymnosperms
 - c. Cryptogams
 - d. Seed Ferns
- VIII. A Colporate Pollen grain has
 - a. A colpus only
 - b. A pore only
 - c. Both colpus and pore
- IX. **Monosaccate** Pollen grain is characterized by
 - a. One saccus
 - b. Two sacci
 - c. Three sacci
 - d. none
- X. The outer most layer of exinal components which may or may not be present is _____
 - a. Baculae
 - b. Intine
 - c. Tectum
 - d. Foot layer



UNIVERSITY OF THE PUNJAB

B.S. 4 Years Program / Sixth Semester – 2019

Roll No.

Paper: Palynology (Advance Course)
Course Code: BOT-317 Part – II

Time: 2 Hrs. 45 Min. Marks: 50

ATTEMPT THIS (SUBJECTIVE) ON THE SEPARATE ANSWER SHEET PROVIDED

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

- I. What are **Palynomorphs**? Enlist various categories of Palynomorphs.
- II. How **Organic Thermal Maturity** of Rocks is determined by the colour of fossil palynomorphs? Discuss
- III. What are **Index Fossils**? How does Index Palynomorphs help in Biostratigraphy?
- IV. What are **Haplotypic** Features/Marks? Why Haplotypic features are absent in **Cryptospores**?
- V. What do these codes indicate about spores and pollen:
Scz, Pac, Pbz, Pdy.
- VI. Differentiate between **Exine Sculpture and Structure**.
- VII. What is **Shell Code**?
- VIII. Differentiate between **Zona and Cingulum**. Support your answer with suitable diagrammes.
- IX. What is principal of **Heavy Liquid Separation**?
- X. How does Palynology help in Medicines to control **Allergies and Asthama**?

Q.3: Define Maceration. Describe in detail the procedure to macerate a given sample of sedimentary rock to isolate Palynomorphs. (10 Marks)

Q.4: a) What do you know about **exine ultra structure**? Discuss in detail various systems used for classification of exine ultrastructure. (05 Marks)

b) Describe any five **exinal ornamentations**. (05 Marks)

Q.5: a) Describe the **Production and Dispersal** of Spores and Pollen in detail. (05 Marks)

b) Explain **Organic Thermal Maturity**. (05 Marks)