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SUBJECT CODE NO:- B-2160
FACULTY OF SCIENCE AND TECHNOLOGY
B.Sc. F.Y (Sem.-II) Examination OCT/NOV 2019
Botany Paper-V
Histology, Anatomy and Embryology

[Time: Three Hours]

[Max.Marks:50]

Please check whether you have got the right question paper.

N.B

- i) Attempt all questions.
- ii) Draw neat and well – labeled diagrams whenever necessary.

- Q.1 Describe Various theories for Root Apex organization 20
 OR
 Describe microsporogenesis and development of male gametophyte 20
- Q.2 Describe in detail the T. S of Dicot leaf. 20
 OR
 Write short Notes on (any four) 20
 a) Anemophily
 b) L.S. of orthotropous ovule.
 c) Collenchyma
 d) Structure of phloem
 e) Structure of Dicot and monocot seed
 f) Helobial type of endosperm
- Q.3 Multiple choice questions. 10
 1) When xylem is surrounded by phloem the vascular bundle is called -----
 a) Collateral b) Radial c) Amphiceribal d) Amphivasal
- 2) Wood is the common name of -----
 a) Cambium b) Vascular bundles c) Phloem d) secondary xylem
- 3) Sap wood differ from heart wood in being -----
 a) Darker and non- conducting
 b) Softer and non- conducting
 c) Lighter and conducting
 d) Harder, darker and less conducting.
- 4) Dermatogen is a tissue formed by apical meristem and it develops into -----
 a) cortex b) Xylem c) Epidermis d) Pith

- 5) In fertilization -----
a) synergids fuse with the antipodal cell.
b) The egg cell fuses with antipodal cell.
c) Pollen is transferred to the stigma.
d) The male nucleus fuses with the egg cell.
- 6) The entry of pollen tube into ovule through micropyle is called -----
a) mesogamy b) Anisogamy c) Porogamy d) chalazogamy
- 7) A microspore mother cell forms -----
a) An ovule b) Embryo sac c) Pollen sac d) Pollen grains
- 8) After fertilization, seed coat develops from -----
a) Integuments b) Embryo sac c) chalaza d) Ovule
- 9) In angiosperms free nuclear division occurs during -----
a) Gamete formation b) Embryo formation
c) Endosperm formation d) flower formation
- 10) Pollination which can occur in the same plant is -----
a) Herkogamy b) Cleistogamy c) Dichogamy d) Dicliny.

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SUBJECT CODE NO:- D-2053
FACULTY OF SCIENCE & TECHNOLOGY
B.Sc. F.Y. (Sem-II)
Examination November/December- 2022
Botany Paper-V
Histology, Anatomy and Embryology

[Time: 1:30 Hours]

[Max. Marks: 50]

Please check whether you have got the right question paper.

- N.B
1. Attempt all questions
 2. Draw neat and well labelled diagram wherever necessary.
- Q.1 Describe in brief permanent tissue and give a detail account of xylem 20
- OR
- Explain in detail the primary structure of dicot root 20
- Q.2 Describe the process of double fertilization. Add a note on its significance. 20
- OR
- Write Short notes on (Any your) 20
- a) Sclerenchyma
 - b) characteristics of Meristematic cells
 - c) T. S. of Monocot leaf
 - d) Heart wood & sapwood
 - e) zoophily
 - f) Monocot seed
- Q.3 Multiple choice questions 10
1. The leaf and stem epidemics is occurred with pares called.....
 - a) Trichrome
 - b) stomata
 - c) Guard cell
 - d) Hole
 2. Apical cell theory proposed by.
 - a) Nageli
 - b) Hanstein
 - c) Crick
 - d) None of these

3. Protective Secondary covering of certain plants, especially woody plants is called
 - a) cortex
 - b) Periderm
 - c) Endodermis
 - d) Guard cells
4. In seed plants is the structure that give rise to seed.
 - a) Anther
 - b) Gametes
 - c) ovule
 - d) None of these
5. ____ Occurs within a Closed flower
 - a) Cross Pollination
 - b) self-Pollination
 - c) Both A & B
 - d) None of above
6. In..... embryo has an axis and the two cotyledons are on either side in opposite direction
 - a) dicot
 - b) Monocot
 - c) Both A&B
 - d) None of above
7. The Phloem in the monocot Stem consists of and companion cells
 - a) Parenchyma
 - b) sclerenchyma
 - c) dine tubes
 - d) vessels.
8. According to korper-kappe theory there are two regions, outer and enter the cells divide in a pattern known as ...
 - a) 'y' division
 - b) 'L' division
 - c) cell division
 - d) 'T' division.
9. The that occurs in the cells of the permanent tissue is fairly at lower side
 - a) Respiration
 - b) photosynthesis
 - c) Glycolysis
 - d) Metabolism
10. Sieve tubes are suited for translocation of food because they possess.
 - a) Bordered pit
 - b) No end walls
 - c) Broader lumen & Pea orated cross walls
 - d) No protoplasm.

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SUBJECT CODE NO:- 2053
FACULTY SCIENCE AND TECHNOLOGY
B.Sc. F.Y (Sem-II)
Examination March/April-2022 (To Be Held In June/July-2022)
Botany Paper-V
Histology, Anatomy and Embryology

[Time: 1:53 Hours]

[Max.Marks:50]

Please check whether you have got the right question paper.

- N.B
1. Attempt all questions.
 2. Draw neat & well labelled diagram wherever necessary.
- Q.1 Describe in details the simple permanent tissue in plant. 20
 OR
 Describe the origin, structure and function of periderm. 20
- Q.2 Explain in detail the primary structure of monocot root. 20
 OR
 Write short notes on (any four) 20
- a) Structure of stomata
 - b) Phloem tissue
 - c) Histogen theory
 - d) Growth ring
 - e) T.S. of anther
 - f) Anatropous ovule
- Q.3 Multiple choice questions:- 10
1. There are three types of meristematic tissue; apical _____ and lateral.
 a) Complex b) Simple c) Vascular d) Intercalary
 2. The xylem tissue is responsible for the conduction of water and _____ from the roots to the leaves.
 a) Fertilizer b) Glucose c) Minerals d) Micro elements
 3. Permanent tissue can be classified into _____ types.
 a) Three b) Four c) Two d) Five
 4. Many trees have a darker region of wood at the center of the trunk or root called _____.
 a) Dark wood b) Heart wood c) Pericycle d) None
 5. _____ root hairs are formed due to elongation of some cells of epiblema
 a) Unicellular b) Multicellular
 c) Cellular d) None of these

6. The fertile portion of stamen is called
 - a) Embryo
 - b) Ovule
 - c) Anther
 - d) None
7. Double fertilization is a complex fertilization mechanism of _____ plants.
 - a) Non flowering
 - b) Gymnosperms
 - c) Flowering
 - d) All of these
8. The order apical cell theory was replaced by the histogen theory proposed by.
 - a) Manoj kuchekar
 - b) Robert Hooke
 - c) Mendel
 - d) Hanstein
9. _____ is the outermost single cell layer the cells of which usually divide by radial walls & give rise to epidermis
 - a) Plerome
 - b) Dermatogen
 - c) Meristem
 - d) Periblem
10. _____ of Embryo sac is found at the micropylar end.
 - a) Synergids & egg
 - b) Polar nuclei
 - c) Antipodal cells
 - d) None of these

Total No. of Printed Pages: 2

SUBJECT CODE NO: - Y-2053
FACULTY OF SCIENCE AND TECHNOLOGY
B.Sc. F.Y (Sem-II)
Examination March / April - 2023
Botany Paper-V Histology, Anatomy and Embryology

[Time: 1.30 Hours]

[Max. Marks: 50]

Please check whether you have got the right question paper.

N. B

- 1) Attempt all questions.
- 2) Draw neat & well labelled diagrams whenever necessary.

Q1 What are epidermal tissues? Describe in detail different types of stomata. 20

OR

Describe different theories of cellular organization of root and shoot apex.

Q2 Explain in detail the development of male gametophyte in angiosperms. 20

OR

Write short note on: - (any 4) 20

- a. Glandular and non-glandular trichomes
- b. Xylem vessel thickenings
- c. Anatomy of dorsiventral leaf.
- d. Functions of phellem, phellogen, phelloderm.
- e. Contrivances of self-pollinations.
- f. Anemophily

Q3 Multiple choice questions. 10

1. _____ plants have vessels in xylem.
 a) Pteridophytes b) Angiosperms c) Algae d) Bryophytes
2. Conjoint, collateral & open vascular bundles are found in _____.
 a) monocots b) Dicots
 c) Both dicots and monocots d) None of the plants
3. In Hydrophytes, floating ability is due to the presence of _____ tissue.
 a) collenchyma b) chlorenchyma
 c) sclerenchyma d) Aerenchyma
4. _____ increase the diameter of stem & root.
 a) Intercalary meristem b) Apical meristem
 c) Lateral meristem d) All of the these
5. Stomata are the example of _____.
 a) Secretory tissues b) Permanent tissues
 c) meristematic tissues d) Epidermal tissues

6. _____ tissues are found in all soft plant parts.
 - a) Parenchyma b) collenchyma
 - c) sclerenchyma d) None of the above
7. Tunica corpus theory is connected with _____
 - a) Root apex b) Root cap c) shoot apex d) secondary growths
8. In embryogenesis, fusion of male gamete and polar nuclei results in _____
 - a) Endosperm b) embryo c) suspensor d) Zygote
9. _____ layer of anther provides nourishment to the sporogenous tissue
 - a) Endothecium b) middle c) Tapetum d) epidermal
10. After fertilisation, seed, coat develops from _____
 - a) Chalaza b) Ovule c) embryo sac d) Integuments

Total No. of Printed Pages: 2

SUBJECT CODE NO: - Y-2053
FACULTY OF SCIENCE AND TECHNOLOGY
B.Sc. F.Y (Sem-II)
Examination March / April - 2023
Botany Paper-V Histology, Anatomy and Embryology

[Time: 1.30 Hours]

[Max. Marks: 50]

Please check whether you have got the right question paper.

N. B

- 1) Attempt all questions.
- 2) Draw neat & well labelled diagrams whenever necessary.

Q1 What are epidermal tissues? Describe in detail different types of stomata. 20

OR

Describe different theories of cellular organization of root and shoot apex.

Q2 Explain in detail the development of male gametophyte in angiosperms. 20

OR

Write short note on: - (any 4) 20

- a. Glandular and non-glandular trichomes
- b. Xylem vessel thickenings
- c. Anatomy of dorsiventral leaf.
- d. Functions of phellem, phellogen, phelloderm.
- e. Contrivances of self-pollinations.
- f. Anemophily

Q3 Multiple choice questions. 10

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2. Conjoint, collateral & open vascular bundles are found in _____.
 a) monocots b) Dicots
 c) Both dicots and monocots d) None of the plants
3. In Hydrophytes, floating ability is due to the presence of _____ tissue.
 a) collenchyma b) chlorenchyma
 c) sclerenchyma d) Aerenchyma
4. _____ increase the diameter of stem & root.
 a) Intercalary meristem b) Apical meristem
 c) Lateral meristem d) All of the these
5. Stomata are the example of _____.
 a) Secretory tissues b) Permanent tissues
 c) meristematic tissues d) Epidermal tissues

6. _____ tissues are found in all soft plant parts.
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8. In embryogenesis, fusion of male gamete and polar nuclei results in _____
 - a) Endosperm b) embryo c) suspensor d) Zygote
9. _____ layer of anther provides nourishment to the sporogenous tissue
 - a) Endothecium b) middle c) Tapetum d) epidermal
10. After fertilisation, seed, coat develops from _____
 - a) Chalaza b) Ovule c) embryo sac d) Integuments

Total No. of Printed Pages: 2

SUBJECT CODE NO: - YY-2348
FACULTY OF SCIENCE AND TECHNOLOGY
B.Sc. F.Y (Sem- II)
Examination March / April - 2023
Botany Paper-V Histology, Anatomy & Embryology Paper-IV

[Time: 1:30 Hours]

[Max. Marks: 40]

Please check whether you have got the right question paper.

N. B

- 1) All questions are compulsory.
- 2) All question carry-equal marks.
- 3) Draw neat diagram and give labels where ever necessary.

Q1 Define tissue? Describe the simple permanent tissue in plants. 10

OR

Explain in Brief.

- a) L. S. of shoot apex.
- b) Nectarines and oil glands.

Q2 Describe secondary growth in sunflower stem. 10

OR

Explain in Brief.

- a) Annual rings.
- b) Periderm

Q3 write short notes on. (Any Two) 10

- a) cellular endosperm.
- b) contrivances for Self Pollination
- c) structure of monocot seed.

Q4 Multiple choice questions 10

1. There are three types of meristematic tissue, apical _____ Lateral.
 - a) Simple b) complex c) Intercalary d) vascular
2. Permanent tissues are classified into _____ types.
 - a) One b) Two c) Three d) four
3. Tunica corpus theory was put forth by _____.
 - a) Nageli b) Schmidt c) Hanstein d) Eames.
4. Guard cells controls the opening and closing of _____.
 - a) Digestive gland b) stomata c) Trichomes d) Nectaries
5. In _____ types of Parenchymatous tissue chloroplast is found.
 - a) xylem b) chlorenchyma c) Sclerenchyma d) Phloem.
6. _____ is also known as ground tissue.
 - a) Epidermis b) Endodermis c) cortex d) cambium
7. Casparian strips are present in _____.
 - a) Endodermis b) Hypodermis c) Pericycle d) Epidermis

8. In Angiosperms _____ functions as male gametophyte.
a) Pollen grains b) Nucellus c) ovules d) stamens
9. A set of three nuclei present at micropylar end in embryo sac are _____
a) Polar nuclei b) synergids and egg
c) Antipodal cells d) None of these
10. Pollination takes place through the agency of water is called as _____
a) Anemophily b) Hydrophily c) Zoophily d) Entomophily

Total No. of Printed Pages: 2

SUBJECT CODE NO: - BB-2328
FACULTY OF SCIENCE AND TECHNOLOGY
B. Sc. (CBCGS) (Pattern 2022) F.Y (SEM-II)
Examination November / December- 2023
Botany Paper-V
Histology, Anatomy & Embryology Paper-IV

[Time: 1:30 Hours]

[Max. Marks: 40]

Please check whether you have got the right question paper.

N. B

- 1) All questions are compulsory.
- 2) All questions carry equal marks.
- 3) Draw neat diagram & give labels wherever necessary

Q1 What is tissue? Describe in brief complex permanent tissues. 10

OR

Explain in brief.

- a) Tunica corpus theory
- b) Parenchyma

Q2 Describe primary structure of monocot stem 10

OR

Explain in brief.

- a) Heart wood and sap wood
- b) Periderm

Q3 Write short notes on (any two) 10

- a) Anatropous ovule
- b) Nuclear endosperm
- c) Significance of double fertilization

Q4 Multiple choice questions. 10

1. The branch of Biology deals with the study of tissues is called as -----
 a) Cytology b) Morphology c) Ecology d) Histology
2. ----- is the only dead, simple permanent tissue.
 a) Aerenchyma b) Meristem c) Collenchyma d) Sclerenchyma
3. Permanent tissues are classified into ----- types.
 a) One b) Two c) Three d) Four

