Total No. of Printed Pages:3

SUBJECT CODE NO:- B-2168
FACULTY OF SCIENCE AND TECHNOLOGY
B.Sc. S.Y (Sem.-IV) Examination OCT/NOV 2019
Botany Paper- XII
Plant Physiology

[Time: 1:30 Hours] **[Max.Marks:50]**

Please check whether you have got the right question paper.

N.B i) Attempt all questions.
ii) Illustrate your answer with suitable labeled diagram.

Q.1 Describe in detail the concept by water absorption unplants. **20**

OR

Explain the phases of growth.

Q.2 What is CAM pathway? Explain in detail. **20**

OR

Write Short Notes (Any Four)

a) Ascent of sap
b) Starch-sugar hypothesis
c) Lock & key theory of enzyme
d) Cytokinins
e) Chloroplast
f) C3 cycle

Q.3 Multiple choice questions. **10**

1) Stomata open at night & close during day time in

a)Xerophytes b)Mesophytes

c)Succulents d)Hydrophytes

2) The end product of glycolysis is

a)Acetyl co-enz yme b)Pyruric acid

c)Co2 & H2o d)Fruc tose

3) Dieback disease of shoot is caused due to deficiency of

a) Copper b) Chlorine

c) Sulphur d) Irona

4) IAA is also known as

a) Indokacetaldehyde b) Indolepyruvicacid

c) Indole acetonitrate d) Indole 3 aceticacid

5) The protein part of enzyme is called

a) Apoenzyme b) Holoenzyme

c) Zymagen d)Prosthetic group

6) Slow & Steady growth of plant ocurs during

a) Lag phase b) Log phase

c) Senescence phase d) None of these

7) Seed dormancy can be broken by

a) Ethylene b) Gibberellin

c) Auxin d) Cytokinin

8) Dimorphic Chloroplasts are present in

a) All Types b) Sugar cane

c) China rose d) Wheat

9) Emerson effect proves

a) Photophosphorylation b)Two photosystem in plants

c) Photorespiration d)None of these

10) At night green plants release

a) Co2 b) Water

c) O2 d) All of these

Total No. of Printed Pages: 02

SUBJECT CODE NO:- 2064
FACULTY OF SCIENCE & TECHNOLOGY
B.Sc. S.Y (Sem-IV)
Examination March/April-2022 (To Be Held In June/July-2022)
Botany Paper- XII
Plant Physiology

[Time: 1:53 Hours] **[Max. Marks:50]**

Please check whether you have got the right question paper.

N.B
i. Attempt all questions.
ii. Illustrate your answer with suitable labeled diagram.

Q.1 Define transpiration. Describe starch – sugar hypothesis 20

OR

What are gibberellin? Describe their practical application in plants. 20

Q.2 What is glycolysis? Explain in detail steps in glycolysis. 20

OR

Write short notes (Any Four). 20

a) Plasmolysis
b) stomatal transpiration
c) Prosthetic group
d) Kvanz anatomy
e) ATP
f) Lactic acid fermentation

Q.3 Multiple choice questions. 10

1) The apparatus used for measuring rate of transpiration is called as --------
   a) Psychrometer b) Potometer
   c) Spectrometer d) Nome of these

2) Wilting in plants occurs one to increase in ------
   a) Photosynthesis b) Osmosis
   c) Photoperiodism d) Transpiration

3) Which part of the root is involved in absorption of mineral salts in higher plants.
   a) Meristematic region b) Root cap
   c) Zone of elongation d) Root harzone

4) Metabolic energy revered in ----------
   a) passive absorption of mineral salt
   b) Active absorption of mineral salt
   c) Contral exchange of ions
   d) none of these

5) An apoenzyme is a -------
   a) Vitamin
   b) Amino acid
   c) Carbohydrate
   d) Protein

6) Enzyme activating is affected by --------
   a) substrate concentration
   b) PH
   c) Temperature
   d) all of these

7) ABA occurs in plants predominantly in --------
   a) Root
   b) Stem
   c) Flowers
   d) Mature green leaves.

8) Which one the following is a potent weed killer?
   a) 2,4-D
   b) FAA
   c) TIBA
   d) NAA

9) Non-cyclic electron transport in photosynthesis is -------
   a) Q - Scheme
   b) Z – Scheme
   c) Y – Scheme
   d) None of these

10) Aerobic respiration taken place in ---------
   a) Mito choridria
   b) Nucleus
   c) Chloroplast
   d) Ribosome.

Total No. of Printed Pages: 2

SUBJECT CODE NO:- B-2064
FACULTY OF SCIENCE & TECHNOLOGY
B.Sc. S.Y. (Sem-IV)
Examination November/December- 2022
Botany Paper- XII
Plant Physiology

[Time: 1:30 Hours] **[Max. Marks:50]**

Please check whether you have got the right question paper.

N.B i) Attempt all questions.
ii) Illustrate your answer with suitable labeled diagram.

Q.1 What is ascent of sap? Describe transpiration pull theory. 20

OR

What are auxins? Describe its practical application. 20

Q.2 Define photophosphorylation and describe cyclic photophosphorylation. 20

OR

Write short notes (any four) 20

1) Active water absorption
2) Protoplasmic streaming theory
3) Apoenzyme
4) Gibberellin
5) CAM
6) Alcoholic fermentation

Q.3 Multiple choice questions. 10

1. Plasmolysis occur due to ------
   a) Absorption c) Endosmosis
   b) Osmosis d) Exosmosis

2. Hydroponics is ------
   a) Growing of aquatic plants c) Soil-less cultivation of plants
   b) Growing of xerophytic plants d) All of the above

3. Which of the following is macronutrient?
   a) Ca
   b) Mn
   c) Zn
   d) Cu

4. Most common role of cytokinin in plants is ----.
   a) Cell elongation
   b) Cell division
   c) Elongation of internode
   d) Apical dominance

5. Which hormone is responsible for ripening of fruits.
   a) Auxin
   b) Cytokinin
   c) Ethylene
   d) Gibberellin

6. What is end product of glycolysis.
   a) Lactic acid
   b) Pyruvic acid
   c) Malic acid
   d) Glucose

7. Enzymes are polymers of -----.
   a) Hexose sugar
   b) Amino-acid
   c) Fatty acids
   d) Inorganic phosphate

8. Light reaction occurs in -----
   a) Grana
   b) Struma
   c) Thylakoid
   d) Mitochondria

9. Currency of a cell is ------.
   a) Mitochondria
   b) ATP
   c) Grana
   d) Fat

10. Kranz anatomy found in -------.
    a) Fungi
    b) C_3 plants
    c) C_4 plants
    d) None of these

Total No. of Printed Pages: 2

SUBJECT CODE NO: - Y-2064
FACULTY OF SCIENCE AND TECHNOLOGY
B.Sc. S.Y (Sem-IV)
Examination March / April - 2023
Botany Paper- XII Plant Physiology

[Time: 1:30 Hours] **[Max. Marks: 50]**

Please check whether you have got the right question paper.

N. B
1. Attempt all questions.
2. Illustrate your answer with suitable labelled diagram.

Q1 What is imbibition? Describe imbibition with respect to the osmatic effect and its Quantitative aspects? 20

OR

Discuss briefly mechanism of opening and closing of stomata and describe classical theory of its mechanism?

Q2 Define growth. Discuss various phases of growth? 20

OR

Write short notes on (any four)
a) Apo enzyme
b) Cytokining
c) CAM pathway
d) ATP
e) Carrier concept
f) Mass flow hypothesis

Q3 Multiple choice questions. 10

1. The site of photosynthesis is ----------
   a) Chloroplast
   b) Mitochondria
   c) Endoplasmic reticulum
   d) Nucleus

2. End product of Calvin cycle is ---------
   a) PGA
   b) ADP + NADP
   c) RUBP
   d) PGAL
3. The nature of enzyme is ---------
   a) Lipid
   b) Vitamins
   c) Carbohydrate
   d) Protein

4. First phase of plant growth is ---------
   a) Cell formation phase
   b) Cell differentiation phase
   c) Cell elongation phase
   d) None of the above

5. Transport of photosynthesis from mesophyll chloroplast to the phloem of nature leaves is ----------
   a) Phloem loading
   b) Phloem unloading
   c) Both a & b
   d) None of the above

6. ---------- of the following is a macronutrient.
   a) Chlorine
   b) Magnese
   c) Zinc
   d) Phosphorous

7. Osmosrs is a special kind of ----------
   a) Regulation
   b) Absorption
   c) Diffusion
   d) Adsorption

8. Uptake of water from soil by root is called as ----------
   a) Ascent of sap
   b) Absorption of water
   c) Both a and b
   d) None of the above

9. End product of krebs cycle is -------
   a) CO_2 and H_2O
   b) $FADH_2$
   c) NADH
   d) All of these

10. Who discovered the process of photophosphorylation?
    a) Warburg
    b) Arnon
    c) Calvin
    d) Priestey

Total No. of Printed Pages : 2

SUBJECT CODE NO: - B-2064

FACULTY OF SCIENCE AND TECHNOLOGY

B.Sc. S.Y (SEM-IV)

Examination November / December 2023

Botany Paper- XII Plant Physiology

[Time : 1:30 Hours] **[Max. Marks : 50]**

Please check whether you have got the right question paper.

N. B 1) All questions are compulsory.

2) Draw diagram whenever necessary.

3) Use Only blue or black pen for writing.

Q.1 What are micro nutrients? Discuss the physiological sole and deficiency symptoms of any two micro nutrients. **20**

OR

Discuss the electron transport system in mitochondria

Q.2 What are plant growth regulators? Discuss the role and practical application of Gibber-ellins. **20**

OR

Write short notes on (any four)

(a) Holoenzyme
(b) Sigmoid growth curve
(c) Starch sugar hypothesis
(d) Lenticular transpiration
(e) Ethylene
(f) C_3

Q.3 Multiple choice Questions. **10**

(1) Among the following which is the C_4 plant

(a) Pineapple (b) Soyabean
(c) Sugarcane (d) All of the above

(2) Photo system II occurs in ------
(a) storia (b) cytochrome
(c) Graua (d) Mitochondrial surface

(3) -------- is a gaseous plant hormone
(a) IBA (b) Ethylene
(c) Abscisic acid (d) NAA

(4) ------ is the product of aerobic respiration.
(a) Malic acid (b) Pyruvate
(c) Ethylene (d) Lactose

(5) Which of the following biomolecule is known as enzyme -----
(a) lipids (b) carbohydrates
(c) protein (d) All of these

(6) Cell becomes is known as -------
(a) Plasmolysis (b) Exosomosis
(c) Eudosomsis (d) Diffusion

(7) Calvin cycle is known as -------.
(a) C_3 cycle (b) C_4 cycle
(c) CAM pathway (d) All of these

(8) Much mass flow hypothesis is also known as --------.
(a) protoplasmic streaming theory (b) cyto chrome pump theory
(c) pressure flow theory (d) Lock and key theory

(9) Lock and key model of enzyme substrate complex was proposed by -------.
(a) Houert (b) Deniel E. Koshland
(c) Email fischer (d) None of the above

(10) The most common energy currency of cell is ------.
(a) AMP (b) ATP
(c) ADP (d) None of these