

Shivaji University, Kolhapur

Question Bank for Mar 2022 (Summer Examination)

Subject Code: 78910 Subject Name: Botany Paper VIII

Que 1 Rewrite the following sentences choosing the correct alternative.

1. -----is a non-protein part of an enzyme.
A. Co-factor
B. Co-enzyme
C. Isozyme
D. Co-enzyme-A
2. Enzymes are-----in nature.
A. Lipid
B. Carbohydrates
C. Protein
D. Sugar
3. Enzymes are sensitive to heat and -----.
A. pH
B. Acid
C. Alkali
D. Cold
4. -----enzyme catalyse the oxidation-reduction reaction.
A. Transaminase
B. Glutamine synthetase
C. Phosphofructokinase
D. Oxido-reductase
5. Induced Fit hypothesis for mechanism of enzyme action was proposed by-----
A. Kuhne
B. Koshland
C. Kocher
D. Emil Fischer
6. Enzymes acts on specific-----.
A. Substrate
B. Molecule
C. Ions
D. Photons
7. -----types of enzymes have been recognized by IUB.
A. 4
B. 5
C. 6
D. 8
8. -----element is involved in nitrate reduction in plants.
A. calcium
B. phosphorous
C. molybdenum
D. zinc
9. *Azolla* shows association with -----algae.
A. *Nostoc*
C. *Oscillatoria*

- | | |
|----------------|-----------------|
| A. Chloroplast | C. Cytosol |
| B. Nucleus | D. Mitochondria |
21. The electron transport system consist of-----multimolecular complexes.
- | | |
|------|------|
| A. 4 | C. 5 |
| B. 3 | D. 2 |
22. Krebs cycle takes place in-----.
- | | |
|-----------------|----------------|
| A. Cytosol | C. Chloroplast |
| B. Mitochondria | D. Peroxisome |
23. During aerobic respiration one molecule of glucose generates-----ATP molecules.
- | | |
|-------|-------|
| A. 34 | C. 38 |
| B. 36 | D. 32 |
24. Anaerobic respiration occurs in absence of molecular-----
- | | |
|-------------|-------------------|
| A. Nitrogen | C. Hydrogen |
| B. Oxygen | D. Carbon dioxide |
25. TCA cycle is also known as-----
- | | |
|----------------------|--------------------|
| A. Glyoxylate cycle | C. Glycolate cycle |
| B. Citric acid cycle | D. EMP pathway |
26. Enzyme acts on specific-----
- | | |
|---------------|------------|
| A. Molecules | C. Ions |
| B. Substrates | D. Photons |
27. Chemically enzymes are-----
- | | |
|------------------|---------------|
| A. Proteins | C. Lipids |
| B. Carbohydrates | D. Polyphenol |
28. -----proposed the Lock and Key hypothesis of enzyme action.
- | | |
|-----------------|-----------|
| A. Emil Fischer | C. Kuhne |
| B. Koshland | D. Kocher |
29. An enzyme that joins the ends of two strands of nucleic acid is-----
- | | |
|---------------|---------------|
| A. Polymerase | C. Synthetase |
| B. Ligase | D. Hydrolase |
30. The function of enzyme phosphorylase is- -----.
- | | |
|----------------------------------|------------------------------------|
| A. Transfer of carboxylase group | C. Transfer of inorganic phosphate |
| B. Transfer of amino group | D. addition of water molecule |

31. -----is produced with the combination of apoenzyme and prosthetic group.
- A. Enzyme-substrate complex C. Holoenzyme
B. Enzyme-product complex D. Co-enzyme
32. Apoenzyme is-----of holoenzyme.
- A. protein part C. co-factor
B. prosthetic group D. non-protein part
33. -----is a symbiotic nitrogen fixing bacteria.
- A. *Pseudomonas* C. *Clostridium*
B. *Rhizobium* D. *Azotobacter*
34. -----bacteria converts ammonium compounds into nitrates.
- A. Denitrifying bacteria C. Nitrifying bacteria
B. Ammonifying bacteria D. Sulphur bacteria
35. -----is a major plant macronutrient found in nucleic acid and proteins.
- A. Nitrogen C. Sulphur
B. Calcium D. Iron
36. The conversion of atmospheric free nitrogen into organic forms is termed as-----
- A. Nitrogen fixation C. Denitrification
B. Nitrification D. Nitrogen assimilation
37. The viviparous condition is related to high concentration of -----in the leaves of mother plant.
- A. Ammonium C. Chlorides
B. Phosphates D. Nitrates
38. -----pigments are present in root nodules of leguminous plants.
- A. Phytochrome C. Nod-haemoglobin
B. Leghaemoglobin D. Haemoglobin
39. The red and far-red sensitivity of seeds is due to-----pigment.
- A. Chlorophyll a C. Phytochrome
B. Carotenoid D. Xanthophyll
40. In-----type of seed germination cotyledons do not come out of the soil surface.
- A. Epigeal C. Hypogeal
B. Vivipary D. none of these
41. The method of softening and weakening of seed coat is known as-----.

- A. Scarification
B. Impaction
- C. Hardening
D. Loosening
42. Anaerobic respiration is always completed in-----.
- A. cell nucleus
B. cell cytoplasm
- C. cell wall
D. cell membrane
43. Glycolysis occurs in-----.
- A. Cytosol
B. Mitochondria
- C. Chloroplast
D. Peroxisome
44. -----is an important cause of seed dormancy.
- A. Hard seed coat
B. Mature embryo
- C. Reserve food
D. None of these
45. -----is dormancy induced hormone
- A. Indole Acetic acid
B. Abscisic Acid
- C. Gibberelic acid
D. Cytokinin
46. During anaerobic respiration-----is converted into alcohol and CO₂
- A. Malic acid
B. Citric acid
- C. Pyruvic acid
D. Oxaloacetic acid
47. -----is a process responsible for oxidation of organic substances with release of energy and CO₂.
- A. Photosynthesis
B. Protein synthesis
- C. Respiration
D. Transpiration
48. Isoenzymes are
- A. multiple forms of enzymes
B. multiple forms of fats
- C. multiple forms of lipids
D. multiple forms of polyphenols
49. Non-protein part of enzyme is called as
- A. cis
C. aldo
- B. trans
D. prosthetic group
50. IUB means
- A. International Union of Business
C. International Union of Biochemistry
- B. International Union of Broadcasting
D. International Union of Botany
51. The atmospheric Nitrogen is present inform.

62. Seeds in which germination is stimulated by light are called.....
- A. Positive photoblastic B. Negative photoblastic
C. photoperiodic D. vernalized
63.growth hormone break the seed dormancy.
- A. Auxins B. Gibberellins
C. Abscisic acid D. Ascorbic acid
64. The method of softening and weakening of seed coat is known as-----.
- A. Scarification B. Impaction
C. Hardening D. Loosening
65. The reserve food in seeds during germination is finally converted into soluble-----
- A. Starch B. Sucrose
C. Oligosaccharides D. Amino acids
66. The non-catalytic site of enzyme where end product is bound is called-----
- A. Allosteric site B. Allosteric bond
C. Allosteric product D. Allosteric enzyme
67. Multimolecular forms of the same enzyme that differ in their electrophoretic mobility are known as-----
- A. Isoenzyme B. Apoenzyme
C. Holoenzyme D. Co-enzyme
68. The enzyme phosphorylase converts starch into soluble sugars at pH
- A. 5 B. 8
C. 7 D. 6
69. Lactic acid fermentation is associated with ----bacteria.
- A. Lactobacillus B. Rhizobium
C. Nitrosomonas D. Pseudomonas
70. -----enzyme is involved in the production of alcoholic beverages.
- A. Fumarase B. Zymase
C. Dehydrogenase D. Fumarase

Que 2 Long Answer type questions.

1. What are the enzymes? Explain in brief classification of enzymes with suitable example.
2. Define Enzyme. Describe the mechanism of enzyme action.

3. What are the enzymes? Explain 'Enzyme as a Biocatalyst'.
4. What is Respiration? Give an account of Glycolysis.
5. Describe Krebs cycle and give its significance.
6. Explain the electron transport system in mitochondria.
7. What is respiration? Explain mechanism of anaerobic respiration.
8. Give an account of fermentation process.
9. What is seed dormancy? Give different methods to break seed dormancy.
10. Give an account of biochemical changes during seed germination.
11. Describe mechanism of nitrogen fixation in root nodules.
12. Explain in brief biological nitrogen fixation.

Que. 3 Short Notes

1. Anaerobic respiration
2. Importance of Fermentation
3. Oxidative decarboxylation of pyruvic acid or synthesis of A. COA from pyruvic acid
4. Krebs cycle
5. Types of Respiration
6. Lock and Key hypothesis
7. Induced fit hypothesis
8. Properties of enzymes
9. Co-enzyme
10. Co-factor
11. Effect of pH and temperature on enzyme activity
12. Nif genes
13. Assimilation of ammonia
14. Nitrogen fixation in root nodules
15. Nitrate reduction
16. Causes of seed dormancy
17. Factors affecting seed germination
18. Viviparous mode of seed germination
19. Hypogeal type of seed germination
20. Epigeal type of seed germination