K21N 0241

Reg. No. : .....

Name : .....

I Semester M.Sc. Degree (C.B.S.S. – Reg./Supple.)
Examination, October 2021
(2021 Admission)
PLANT SCIENCE
PSB1C 01 : Cell Biology and Molecular Genetics

Time : 3 Hours Max. Marks : 60

***Instruction** : Draw diagrams **wherever** necessary.*

SECTION – A

Answer **any two** questions; **one** from **each** bunch : **(2×8=16)**

1. A) Explain cell adhesion molecules. Write a note on cell – cell adhesions.

   OR

   B) Give an account on the structure and function of Mitochondria. Write a note on Mitochondrial abnormalities of plants.

2. A) Write an essay on different types of DNA repair mechanisms.

   OR

   B) Describe the common types of chromosomal aberrations. How can it be exploited ?

SECTION – B

Answer **any three** questions : **(3×5=15)**

3. What is end replication problem ? How is it resolved ?

4. Comment on the enzymes taking part in DNA replication.

5. Define cellcycle. How is it regulated ?

6. Write a note on Signaling molecules and their receptors.

7. Explain the Britten and Davidson Model of gene regulation.

P.T.O.

SECTION – C

Answer **any five** questions : **(5×3=15)**

8. What is CDK ? Explain its role in cell cycle.
9. Differentiate between B-DNA and Z-DNA.
10. Plastid genome organization.
11. Explain RNAi.
12. Write a note on Golgi bodies. Mention its functions.
13. Explain Operon concept.
14. Differentiate between euchromatin and heterochromatin.
15. Write a note on Human genetic abnormalities.

SECTION – D

Answer **any seven** questions : **(7×2=14)**

16. What is C value paradox ?
17. Define nucleosome.
18. Exons and Introns.
19. House-keeping genes.
20. Role of Guide RNA.
21. Define cistron.
22. What is FISH ?
23. Define Apoptosis.
24. Nuclear Pore Complex.
25. Define replisome.

K22N 0191

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Examination, October 2022
(2020 Admission Onwards)
PLANT SCIENCE
PSB1C01 : Cell Biology and Molecular Genetics

Time : 3 Hours Max. Marks : 60

***Instruction** : Draw diagrams **wherever** necessary.*

SECTION – A

Answer **any two** questions, **one** from **each** bunch. **(2×8=16)**

1. A) What is Ames Ames test ?

   OR

   B) Comment on basal transcription apparatus.

2. A) What is interference ? How is it calculated ?

   OR

   B) Distinguish between attenuation and antitermination.

SECTION – B

Answer **any three** questions. **(3×5=15)**

3. What is meant by Lyons hypothesis ?
4. Illustrate structure of tRNA.
5. Comment on extracellular matrix.
6. What is terminism ?
7. What are retroviruses ?
8. Give an account on the role of condensins.

P.T.O.

SECTION – C

Answer **any five** questions. **(5×3=15)**

9. Explain Apoptosis.
10. Comment on the inhibitors of Apoptosis.
11. Explain housekeeping genes.
12. Write a note on alkaptonuria.
13. What is consanguinity ? What is its consequenses ?
14. Write a brief account on linkage map.
15. Explain lytic cascade.

SECTION – D

Answer **any seven** questions. **(7×2=14)**

16. Functions of nucleolus.
17. State the role of telomerase.
18. Comment on cell adhesion molecules.
19. What are the important features of genetic code ?
20. Comment on Mendelism.
21. What is site directed mutagenesis ?
22. NOR.
23. Features of lac operon.
24. Distinguish between pribnow box and TATA box.
25. Important events in Meiosis II.

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I Semester M.Sc. Degree (CBSS – Reg./Supple.) Examination, October 2021
(2021 Admission)
PLANT SCIENCE
PSB1C02 : Microbiology, Mycology and Plant Pathology

Time : 3 Hours Max. Marks : 60

***Instruction** : Draw diagrams **wherever** necessary.*

SECTION – A

Answer **any two** questions, **one** from **each** bunch. **(2×8=16)**

1. A) Write an essay on the Economic importance and Ecological significance of Fungi.

   OR

   B) Describe the salient features of Basidiomycota.

2. A) Explain classification of bacteria according to Bergey's manual of systematic bacteriology.

   OR

   B) How plant diseases are classified based on symptoms ?

SECTION – B

Answer **any three** questions. **(3×5=15)**

3. Explain the structure of fungal cell wall.
4. Write a note on defense mechanisms found in plants to prevent diseases.
5. Distinguish between viroids and prions.
6. Describe the types of fruiting bodies in fungi.
7. Write a note on industrial utilization of microorganisms.

P.T.O.

SECTION – C

Answer **any five** questions. **(5×3=15)**

8. Comment on parasexuality in fungi.
9. Microbial culture and its importance.
10. List out the characters used in fungal classification.
11. Explain Koch's postulates.
12. Write a note on archaebacteria.
13. General characters of myxomycota.
14. How does replication and transmission of viruses take place ?
15. Name the causative organism of Anthracnose in mango. What are the symptoms of this disease ?

SECTION – D

Answer **any seven** questions. **(7×2=14)**

16. What is Mycoplasma ?
17. Dolipore septum.
18. Phases of growth in bacteria.
19. Define soredia.
20. Biological control of pathogens.
21. Peculiarities of Deuteromycetes.
22. Differentiate between capsule and slime.
23. Host parasite interaction.
24. Symptoms of blight disease of paddy.
25. What are aflatoxins ?

K22N 0192

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Examination, October 2022
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PLANT SCIENCE
PSB1C02 : Microbiology, Mycology and Plant Pathology

Time : 3 Hours Max. Marks : 60

***Instruction** : Draw diagrams **wherever** necessary.*

SECTION – A

Answer **any two** questions, **one** from **each** bunch. **(2×8=16)**

1. A) Give an account of salient features of Ascomycota. Briefly explain its various modes of reproduction.

   OR

   B) Explain the Alexopoulos classification of fungi.

2. A) Give a detailed account of the major diseases of plants in India.

   OR

   B) Explain the various applications of microbial fermentation.

SECTION – B

Answer **any three** questions. **(3×5=15)**

3. What are the economic and ecological significance of lichens ? Explain.
4. Comment on Biofertilizers and Biopesticides.
5. Write a note on the importance of Deuteromycetes.
6. List out the various contributions of Indian Microbiologists.
7. Give a detailed account of the morphology, replication and transmission of viruses.

P.T.O.

SECTION – C

Answer **any five** questions. **(5×3=15)**

8. Comment on the nutrition of bacteria.
9. Write a short note on various types of fruiting bodies in fungi.
10. Production of alcohol.
11. DNA barcoding in fungi.
12. What is the effect of the environment on plant disease development ?
13. Write a note on various diseases in vegetables.
14. Give the salient features of mycoplasma.
15. Comment on thallus organization in fungi.

SECTION – D

Answer **any seven** questions. **(7×2=14)**

16. What are the various chemicals used for plant disease control ?
17. Give the symptoms of Blister blight disease in tea.
18. Fungi as an endophyte. Substantiate.
19. Comment on the fungal cell wall.
20. Bacterial genetics.
21. Give a brief account of mutualism in Lichen.
22. Why are basidiomycetes called ‘club fungi’ ?
23. How can we maintain a microbial culture ?
24. Short note on mycotoxins.
25. Name three diseases that are commonly seen in Rice.