



# BIOLOGY

## BOOKS - VGS PUBLICATION-BRILLIANT

### MODEL PAPER -14

#### Section A

1. What are porins? What role do they play in diffusion?



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2. How are prosthetic groups different from co-factors ?



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3. What is a genophore ?



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4. Define true breeding. Mention its significance.



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5. What is meant by Capping and Tailing ?



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6. What is the function of DNA polymerase ?



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7. What is the full form of PCR ? How is it useful in Biotechnology?



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8. Can a disease be detected before its symptoms appear ? Explain the principle involved ?



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9. Name two Semi-Dwarf varieties of rice developed in India.



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10. What is Nucleopolyhedrovirus is being used for nowadays?



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**Section B**

1. Write short notes on facilitated diffusion.



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2. 'All elements that are present in a plant need not be essential to its survival'.

Comment.



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3. What conditions enable "RuBisco" to function as oxygenase ? Explain the ensuing

process,



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4. Write any four physiological effects of cytokinins in plants.



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5. Explain the conjugation in bacteria



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## 6. Define and design a test cross



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7. Define transformation in Griffith's Experiment Discuss how it helps in the identification of DNA as genetic material.



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8. Give a brief account of pest resistant in plants.



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## Section C

1. Define transpiration. Explain the structure and mechanism of "opening and closing of stomata.



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2. Give an account of bio-technological applications in agriculture and other fields.



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3. What are the three options to increase food production? Discuss each giving the salient features, merits and demerits.



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