

Q.II Do as directed

[08]

- a) Harshey & Chase experiment used _____ radioisotope to label DNA in their experiment.
- b) _____ plasmids confer to bacteria the ability to produce toxic proteins known as colicines.
- c) The _____ carries genetic information in the form of codons.
- d) _____ is the process in which the cell actually divides into two.
- e) Frederick Griffith conducted a series of experiments using *Staphylococcus* bacteria. (True/False)
- f) Plasmid found in bacteria are molecules of RNA. (True/False)
- g) A genetic code is degenerate. (True/False)
- h) DNA replication occurs during S phase of cell cycle. (True/False)

Q.III Answer the following questions in short. (Attempt any 10)

[20]

- a) Mention about the biological properties of DNA.
- b) What is the effect of Alkali and acid on nucleic acid?
- c) Write about A form of DNA.
- d) Draw the genetic map of pBR322.
- e) Write about Col plasmid
- f) Write in brief about Chloroplast DNA.
- g) What is wobble base?
- h) Give the properties & functions of microRNA
- i) Write about rRNA.
- j) Differentiate between Mitosis & Meiosis.
- k) Mention about G1 phase of cell cycle.
- l) What is apoptosis?

Q.V Answer the following questions in detail. (Attempt any 4)

[32]

- a) Describe Watson & Crick model of DNA.
- b) Discuss in detail Harshey & Chase experiments which prove DNA as a genetic material.
- c) Give an account on Ti and F plasmids.
- d) Write about pUC8. Explain in detail Blue-White screening.
- e) Write in detail about clover leaf model of tRNA.
- f) What is genetic code? Explain in detail the properties of genetic code.
- g) Define Mitosis. Explain in detail its phases with diagram.
- h) Discuss in detail regulation of cell cycle.

*****X*****

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