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8,2)

(8,2)

Exam. Code: 0907 Sub. Code: 6694

1129

B.E. (Biotechnology) Third Semester **BIO-314: Cell Biology and Genetics**

Time allowed: 3 Hours

Max. Marks: 50

NOTE: Attempt five questions in all, including Question No. I which is compulsory and selecting two questions from each Unit.

- Write briefly:
 - a) What is the difference between centrosome and centromere?
 - b) Which cytoskeletal filament you see in cilia and flagella?
 - c) Give example of disease due to ECM malfunction.
 - d) What is the significance of karyotyping?
 - e) Pattern baldness is a — inheritance pattern.
 - f) Give example of proteins regulating cell cycle.
 - g) Down syndrome is caused by ---- in human beings.
 - h) What is the relation of recombination frequency and linkage?
 - i) What is Punnett square?
 - j) What are plasmalogens? Where it is present?

(10x1)

UNIT - I

- a) Discuss different membrane models with diagram. II.
 - b) Cell membrane is asymmetric in nature. How this asymmetry is maintained?
 - c) Differentiate primary and secondary active transport.

(4,3,3)

- a) What is the importance of meiotic cell division? What are different stages of cell III. division? Discuss with proper diagram.
 - b) Write briefly on:
 - i) Nucleosome
 - ii) Polytene and lampbrush chrosmosomes

(4,3,3)

- a) What are the importance of various cytoskeletal filaments in cell? IV.
 - b) Explain structural dynamicity in cytoskeletal filaments.
 - c) Cytoskeletal inhibitor drugs are used as ami cancer drugs. Explain with example. (4,42)

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- V. Give experimental evidences in detail linking the inheritance of genes chromosomes. (10)
- a) How maternal inheritance theory can be proved experimentally? VI. (5)
 - b) Explain brietly:

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- i) Factors for sex determination in animals
- ii) Sex limited and sex influenced characters

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(2x21/2)

(5)

- c) Live ex appearance of the local ECM malford on VII. a) Chromosomal aberration causes various diseases. Justify the statement.
 - b) Write short notes on:
 - i) C value paradox
 - ii) Penetrance and expressivity

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South) What is the relation of resolutional of requestor and limitage in

a) Octors different membrane models with discussion

of Differentiate printers and secondary active transport.

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