

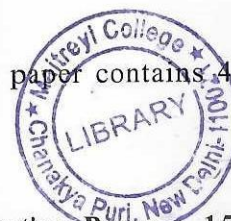
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- (b) Nuclear Pore Complex
- (c) Fluid Mosaic model of cell membrane
- (d) Ultrastructure of Chloroplast
5. (a) Discuss in detail the structure and role of ATP as energy currency of the cell. (7)
- (b) Discuss the role of Golgi apparatus in processing, packaging and sorting of proteins. (8)
6. (a) What are different types of chemical bonds? Discuss about their significance in biology. (7)
- (b) Discuss different stages of cell division in a gametic eukaryotic cell. (8)

(1000)

[This question paper contains 4 printed pages.]



Morning DSC-II
Your Roll No.....

Sr. No. of Question Paper : 1582

Unique Paper Code : 2162011102

Name of the Paper : Cell Biology: Organelles and Biomolecules

Name of the Course : B.Sc. (Hons) Botany

Semester : I

Duration : 2 Hours

Maximum Marks : 60

Instructions for Candidates

1. Write your Roll No. on the top immediately on receipt of this question paper.
2. Question No. 1 is compulsory.
3. Attempt **four** questions in all.

1. (a) Define (**any five**) (1×5=5)

- (i) Heterochromatin
- (ii) Actin
- (iii) Hydrogen bond

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(iv) Essential fatty acids

(v) Disaccharide

(vi) Nuclear lamina

(b) Match the following enzymes with the cell organelle in which they are localized. (1×5=5)

(i) RUBISCO

(a) Mitochondria

(ii) Acid Phosphatase

(b) ER

(iii) Succinic dehydrogenase

(c) Nucleus

(iv) DNA polymerase

(d) Chloroplast

(v) Cytochrome b_5 oxidase

(e) Lysosome

(c) Expand the following (any five) (1×5=5)

(i) SnRNA

(ii) NOR

(iii) mRNA

(iv) NADH

(v) ATP

(vi) ORF

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2. Write short notes on (any three): (5×3=15)

(i) Nucleosome model

(ii) Cytoskeletal elements

(iii) Cell cycle and its regulation

(iv) Double helical structure of DNA

3. Differentiate between (any five): (3×5=15)

(i) SER and RER

(ii) Cell wall and Cell membrane

(iii) Lysosome and Peroxisome

(iv) Nucleoside and Nucleotide

(v) Saturated and Unsaturated fatty acids

(vi) Endocytosis and Exocytosis

4. Draw well labelled diagrams of the following (any three): (5×3=15)

(a) Ultrastructure of Mitochondria

P.T.O.