

Code No: A109212302

R09

Set No. 2

II B.Tech I Semester Examinations, November 2010

CELL BIOLOGY

Bio-Technology

Time: 3 hours

Max Marks: 75

Answer any FIVE Questions
All Questions carry equal marks

1. Write the process of cytokinesis in higher plants. [15]
2. Discuss the structure of mitochondria, chloroplast and golgi apparatus also relate them to their function. [15]
3. Define oncogenes? Discuss the role of oncogenes as possible cause of cancer. [15]
4. Elucidate JAK-STAT pathway and discuss its significance. [15]
5. Describe how differentiation can be understood at cell and population level. [15]
6. Define permeases and mention their role for import of nutrients from the environment. [15]
7. What are COPI and COPII coated vesicle? Describe their roles in protein trafficking? [15]
8. Elucidate prokaryotic cell organization and give examples of prokaryotic phototroph and prokaryotic chemotroph. [15]

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Set No. 4

II B.Tech I Semester Examinations, November 2010

CELL BIOLOGY

Bio-Technology

Time: 3 hours

Max Marks: 75

Answer any FIVE Questions
All Questions carry equal marks

1. Elucidate different categories of signaling. [15]
2. Discuss cell doctrine and describe basic properties of cells. [15]
3. Discuss different mechanisms of molecular movement in active transport. [15]
4. "Mitochondria are energy converters". Justify this statement. [15]
5. Discuss the role of RB in the development of retinoblastoma and also mention where it affects the cell cycle. [15]
6. Discuss protein targeting and describe the destination of proteins synthesized by RER. [15]
7. Write what are the substances that are phosphorylated by Cdk1 /cyclineB to initiate meiosis. [15]
8. Explain strategically how creation of mutant cells in Drosophilla adult tissue can be generated by process of induced somatic mutations. [15]

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Set No. 1

II B.Tech I Semester Examinations, November 2010

CELL BIOLOGY

Bio-Technology

Time: 3 hours

Max Marks: 75

Answer any FIVE Questions
All Questions carry equal marks

1. Discuss how a benign tumour differs from a malignant tumour. [15]
2. Give an overview on mechanism of differentiation. [15]
3. Elucidate the features of active transport. [15]
4. Describe how checkpoints and feedback control the coordination of different phases of cell cycle. [15]
5. Enumerate major enzymes of mitochondria and specify their role in metabolic functions. [15]
6. Write notes on the following:
 - (a) Cytoskeleton
 - (b) Life supporting properties of water. [15]
7. Discuss the specificity of interaction between a transport vesicle and the membrane compartment with which it fuses. Discuss the role of SNARE proteins in membrane fusion. [15]
8. Discuss the role of Ras in signaling pathways? How it is affected by the activity of Ras-GAP and how Ras differ from a heteromeric G protein. [15]

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Set No. 3

II B.Tech I Semester Examinations, November 2010

CELL BIOLOGY

Bio-Technology

Time: 3 hours

Max Marks: 75

Answer any FIVE Questions
All Questions carry equal marks

1. Describe the stages through which a cell progresses from one cell division to the next. [15]
2. Give an account of chemistry of chloroplast and also mention their function. [15]
3. Discuss different classes of cells, differentiate between prokaryotic and eukaryotic cells. [15]
4. Discuss the advantages of embryonic stem cells in comparison to adult stem cells for therapeutic applications. [15]
5. Discuss the mode of signal transduction by different groups of hormones. [15]
6. Elucidate the role of a cytosolic and mitochondrial chaperon in the process of mitochondrial import. [15]
7. Explain the mechanism of absorption of glucose in intestinal and kidney cells. [15]
8. Discuss the procedure of conversion of a protooncogene to oncogene without a change or mutation in its coding sequence. [15]
