

PSG COLLEGE OF ARTS & SCIENCE  
(AUTONOMOUS)

BSc DEGREE EXAMINATION MAY 2023  
(Sixth Semester)

Branch – BIOCHEMISTRY

CELL A MOLECULAR APPROACH

Time: Three Hours

Maximum: 75 Marks

SECTION-A (10 Marks)

Answer ALL questions

ALL questions carry EQUAL marks

(10 x 1 = 10)

- 1) Name the protein involved in cell signaling.  
(i) G Proteins (ii) Oncoproteins  
(iii) Proteases (iv) None
- 2) Name of the process that gives rise to different cell types  
(i) Apoptosis (ii) Division  
(iii) Phagocytosis (iv) differentiation
- 3) Which one of the following is an oncoprotein?  
(i) Ras (ii) Rb  
(iii) TSP (iv) Calmodulin
- 4) Which virus synthesis DNA from RNA?  
(i) DNA virus (ii) circular DNA virus  
(iii) Strand DNA virus (iv) Retrovirus
- 5) Which of the following is an example for stem cell?  
(i) Bonemarrow stem cell (ii) Liverstem cell  
(iii) Blastoseal (iv) All of the above
- 6) Name the material used in tissue engineering  
(i) Scaffold (ii) Transferent  
(iii) Artifart (iv) Prosthetics
- 7) In microarray probes otherwise known as  
(i) Oligos (ii) Mutants  
(iii) Primers (iv) None of the above
- 8) PCR is used for  
(i) Amplify DNA (ii) Amplify RNA  
(iii) Amplify Protein (iv) None of the above
- 9) Name of the pole used in the selection of gene.  
(i) Primer (ii) EST  
(iii) STS (iv) VNTR
- 10) Which is the first diseased gene identified through positional cloning?  
(i) Diabetes (ii)Huntington's disease  
(iii) Parkinson's disease (iv) cystic fibrosis

Cont...

**SECTION - B (35 Marks)**

Answer ALL Questions

ALL Questions Carry EQUAL Marks

(5 x 7 = 35)

- 11) a) Discuss about apoptosis pathway.  
OR  
b) Explain the role of G proteins in cell signaling.
- 12) a) Enumerate the properties of cancer cells.  
OR  
b) Discuss about oncoproteins and their function.
- 13) a) Apprise the embryonic stem cells and their applications.  
OR  
b) Elucidate the process of skin replacement.
- 14) a) Describe the process of RFLP.  
OR  
b) Illustrate the molecular diagnosis of infectious disease.
- 15) a) Discuss about HGP.  
OR  
b) Appraise the process of positional cloning.

**SECTION - C (30 Marks)**

Answer any THREE Questions

ALL Questions Carry EQUAL Marks

(3 x 10 = 30)

- 16) Summarize cell cycle and its regulatory process.
- 17) Discuss about retroviral oncogenes and antioncogens.
- 18) Evaluate tissue engineering and its applications.
- 19) Explain the principle and application of DNA Microarray.
- 20) Summarize the analysis of human disease genes.

Z-Z-Z

END