Rajiv Gandhi University of Health Sciences

First Semester M. Pharm Degree Examination - MAY-2018

[Time: 3 Hours] [Max. Marks: 75]

Cellular and Molecular Pharmacology
Q.P. CODE: 5136

Your answers should be specific to the questions asked.
Draw neat, labeled diagrams wherever necessary.

LONG ESSAY (Answer any Three) **3 X 10 = 30 Marks**

1. Describe the signalling pathway via GPCR and add a note on its regulation.
2. Explain cell viability test using MTT assay and describe the working principles and applications of flow cytometry.
3. Discuss the structure of gene and explain briefly the steps involved in gene expression. Explain any one method for genomic mapping.
4. Explain the basic principles and applications of Western blotting and PCR.

SHORT ESSAY (Answer any Nine) **9 X 5 = 45 Marks**

5. Explain any one method for determination of calcium influx assay.
6. What are cloning vectors and give their role in rDNA technology?
7. What is microarray technique? Mention the various applications.
8. Explain the Sanger's method of gene sequencing.
9. Discuss the principles of glucose uptake assay.
10. What is cryopreservation and describe technique of cryopreservation of cell lines.
11. Explain cell signalling through tyrosine kinase receptors.
12. Explain the role of IP3 and DAG in pharmacology.
13. What is genomics and proteomics? What are their limitations?
14. Write the structure and functions of plasma membrane.

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