

Rajiv Gandhi University of Health Sciences, Karnataka
First Semester M. Pharm Degree Examination - 13-Nov-2024

[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.

Answer All The Questions

10 X 7.5 = 75 Marks

1. Distinguish between different process of cell death-necrosis, apoptosis and autophagy.
2. Explain the transcription process in eukaryotes.
3. Describe the types, structure, signal transduction mechanism of tyrosine kinase receptor.
4. Classify antibodies. Explain the nomenclature, structure, production and uses of antibodies.
5. Describe the various equipment, media and cell culture techniques required for growing cells.
6. What is genomics? Explain its significance. Describe its application in pharmacology and therapeutics.
7. Describe the different types of gene transfer techniques. List the recent advances in gene therapy. Write note on ethical concerns related to this techniques.
8. Write short notes on various genomic and proteomic tools used in molecular pharmacology focusing on its principles and application.
9. Acetylcholine and adrenaline acts on different G-protein couple receptors (muscarinic, alpha adrenergic receptors), however both these agonist activates Gq protein which subsequently acts on phospholipase C leading to formation of inositol 1,4,5 triphosphate (IP3) and DAG is produced by both the agonist, acetylcholine causes vasodilation while adrenaline cause vasoconstriction. How these differences occur? Can explain the signal transduction mechanisms involved in these agonists.
10. Outline the principles involved in glucose uptake assay and calcium influx assay. Mention their applications.
