

**BIRLA INSTITUTE OF TECHNOLOGY, MESRA, RANCHI
(END SEMESTER EXAMINATION)**

**CLASS: M.PHARM
BRANCH: PHARMACY**

SUBJECT: MPL102T ADVANCED PHARMACOLOGY-1

**SEMESTER: 1ST
SESSION: MO-25**

TIME: 3.00 Hours

FULL MARK: 75

INSTRUCTIONS:

1. The missing data, if any, may be assumed suitably.
2. Before attempting the question paper, be sure that you have got the correct question paper.
3. Tables/Data hand book/Graph paper etc. to be supplied to the candidates in the examination hall.
5. Answer any five questions.

- 1a. Elaborate on afferent and efferent neurons. [7]
- 1b. Elaborate on the structure and function of the neuromuscular junction [8]
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- 2a. Write the effects of sympathomimetics and sympatholytic drugs [7]
- 2b. How do glutamate and GABA regulate good health and disease [8]
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- 3a. Write notes on the clinical uses of the hematinics, coagulants, and fibrinolytics [7]
- 3b. Describe the effect of antihypertensive, anti-arrhythmic, and diuretic drugs on cardiac function [8]
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- 4a. Write the factors associated with heart failure and hyperlipidemia, and their treatment with appropriate diagrams [7]
- 4b. Explain a details note on kinetics of elimination of a drug with 1st order and 2nd order kinetics with suitable drug examples and Write a details note on half life ($t_{1/2}$) of a drug and Explain determination of $t_{1/2}$ by using parameters of Clearance and Volume of distribution of a drug. [8]
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- 5a. A 40 year old patient weighing 80kg has to be prescribed antidepressant drug for Unipolar depressive disorders. The Pharmacokinetic parameters & therapeutic plasma concentration of the selected drugs are $C_{pss} = 10 \text{ mg/L}$, Oral (F) = 60% , $V = 2.5\text{L/kg}$, $CL = 70\text{ml/hr/kg}$, $t\text{-half} = 20\text{hrs}$. Calculate maintenance dose and loading dose of the drug for this patient [7]
- 5b. Explain mechanism of action of JAK-STAT receptors [8]
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- 6a. Classify general anaesthetics and Explain Mechanism of action of general anaesthetics [7]
- 6b. Explain types of epileptic disorder ? Classify Antiepileptics & Explain Mechanism of action of Antiepileptics [8]
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- 7a. What is Parkinsonism disease ? classify & Describe mechanism of action of anti parkinsonian drugs [7]
- 7b. Explain types of depressive disorders? Classify & describe mechanism of action of antidepressants drugs. [8]

:::20/11/2025:::M