**MLT 2nd**
**Course Title: General pharmacology I**

**Student Name: Muhammad Bahar Ali**

**Student ID: 16522**

**Note:**

- **Paper is divided into two questions, Q1 includes 15 MCQs and Q2 includes 15 True/False statements**
- **Each MCQ or T/F carry one mark with grand total of 30 marks**
- **Highlight or underline the appropriate option**
- **Before marking, read every statement carefully to understand the actual sense of question**

Q1. Select and highlight appropriate option for given questions

- In the process of metabolism introducing the polar functional group into molecule may _____ the pharmacological activity of drug
    - Increase
    - Decrease
    - No change
    - All of the above
- Drugs having the properties of _____ may have prolong half life
    - Hydrophobic
    - Pass from enterohepatic circulation
    - Both a. and b.
    - None of the above
- Rapid signal transmission and processing occur through
    - G-protein coupled receptor
    - Ligand-gated receptor
    - Enzyme linked receptor

    - Intracellular receptor
- Which of the following statement is not true
    - Mechanistically, every drug can illicit its action via enzymes, ion channels, transporters, receptors
    - Majority of drugs show its effects by interacting with its target biomolecules
    - The targeted biomolecules for initiating drug action are proteins in nature
    - Mechanism of drug action always depends on its selectivity
- The therapeutic index represents an estimate of the_____ of a drug, because a very safe drug might be expected to have a very large toxic dose and a much smaller effective dose.
    - Efficacy
    - Safety
    - Toxicity
    - Both a. and b.
- Which of the following statement is incorrect
    - Oral drug administration is easy to self-administer
    - In emergency situation best choice of drug administration is I/M
    - Drugs with poor penetrability is usually administered through I/V
    - Inhalation means administration through mouth in small, atomized droplets form
- Signals to the skeletal muscles are controlled by
    - G-protein receptors
    - Second messenger system only
    - Nicotinic receptors

- None of the above

- Every drug follows same path/phases of metabolism such as
  - Only one phase at a time
  - Phase I followed by Phase II
  - Phase II followed by Phase I
  - Depending upon chemical nature of drug
  - Both a. and d.
- Which of the following statement is the false one
  - Majority of drugs are equally eliminated via urine and feases
  - Nephron is the structural and functional unit of kidney
  - Only appropriately metabolized can be eliminated efficiently by kidneys
  - If kidneys failed to eliminate then workload is eased by intestinal route.
- Degradative enzymes of GI tract cause drugs to denature which in turn lower its
  - Absorption
  - Distribution
  - Bioavailability
  - Both a. and c.
  - All of the above
- Which receptor require preliminary formation of ligand bonding that lead to moveable complex
  - Enzyme linked receptors
  - Ligand-gated ion channels
  - Intracellular receptors

- G-protein coupled receptors

- A patient having certain type of infections showed altered _____
  - Biological half-life
  - Biological effect half-life
  - Plasma half-life
  - All of the above
- Drug distribution of any class of drug can be determined in terms of _____
  - Hydrophilicity
  - Molecular weight
  - Hydrophobicity
  - Plasma proteins binding
  - All of the above
- Which of the following statement is not related to exact principle of drug action
  - Treatment of low heart rate by giving adrenaline
  - Treatment of acidity with omeprazole
  - Treatment of diabetes by giving insulin as external hormone
  - Treatment cancer by giving them genetic therapy
  - All are true
- Which of the following directly alter membrane potential
  - Enzymes
  - Transporters
  - Ion-linked channels
  - All of the above

Q2. Select and highlight true and false for the given statements

- Clinical pharmacology includes the investigation of drug's efficacy and safety in various form of subjects (True/False)
- Drug X shows its action by releasing cholinergic neurotransmitter, due to large particulate nature its release will occur through endocytosis (True/False)
- Drug metabolism in humans usually results in a product that is more lipid soluble than the original drug (True/False)
- Various doses, dosage form and frequency is adjusted in pharmacotherapeutics (True/False)
- In passive diffusion, aqueous soluble drugs cannot move easily across cell membrane (True/false)
- A patient is administered with drug A started toxic reaction but that drug is slowly metabolized by enzymes, he/she should be treated with cimetidine to overcome toxicity (True/False)
- In enterohepatic circulation, reactivated metabolites comes from the metabolism via enzymes other than CYP P450 (True/False)
- Drug A is hydrophobic in nature and having high plasma proteins binding are likely to distributed effectively to the target organ (True/False)
- A patient has some allergic reactions to the drug A, for avoiding any adverse reaction he administered Drug B with same desired properties, both of the drugs are therapeutically equivalent (True/False)

- Different dosage forms of same therapeutic class of drug will always effect the time to achieve peak plasma concentration (True/False)
- In case of drug action, preliminary bonding of drug with specified receptor will always lead to alteration of receptor's structure (True/False)
- Mechanistically, every drug can illicit its action via enzymes, ion channels, transporters, receptors (True/False)
- As compared to other receptors, intracellular receptors take long for initiating its effect (True/False)
- Depending upon the nature of ligand, majority of drugs interact with receptors that are present across the cell membrane (True/False)
- Various subunits of second messenger system of G-proteins is always linked other receptors i.e. intracellular receptors, enzymes or ion linked channels (True/False)