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ASSESSMENT QUESTION BANK

For

4TH YEAR MBBS STUDENTS

K-73, DMC

PHARMACOLOGY

MICROBIOLOGY

PATHOLOGY

Published by:

*Education & Students Welfare Section,
Bangladesh Islami Chatrashibir,
Dhaka Medical College Unit.*

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For PDF version, visit:

www.bicsdmc.wordpress.com

1st Edition: March, 2015

2nd Edition: October 2016

3rd Edition: October 2017

4th Edition: October 2018

PHARMACOLOGY

(1ST ASSESSMENT)

Batch: K-72

Full marks: 70

Time: 2hrs 30min

Answer any 5 questions from each group. All questions carry equal marks.

Group-A

Q.No. 1

- Define plasma half-life. Mention the clinical significance of plasma half-life. Write down the factors modifying plasma half-life.
- List the routes of drug elimination. Explain with events the examples how the action of a drug can be prolonged.
- Define drug antagonism. Write down different types of drug antagonism with one example in each case.
- Enlist clinically important anti-cholinergic drugs. Outline the management of OPC poisoning patient.
- Name some clinically important adrenergic drugs. Mention the role of adrenaline in anaphylactic shock and hypoglycemic shock.
- Write short notes on (any two)-
 - Potency and Efficacy
 - Therapeutic Index (T.I.)
 - Enzyme inhibition

Group-B

Q.No. 2

- Enumerate diuretics according to efficacy. Explain the antihypertensive action of thiazide. Mention the important adverse effects of thiazide diuretics.
- Classify drug receptors according to signaling mechanism. Explain how G-protein influences second messenger system.
- Enlist 3 emergency routes of drug administration. Write down the advantages of sublingual route and disadvantages of intravenous route.

- d) Name the anti-anginal drugs. Explain how nitroglycerine relieves anginal pain. Mention its adverse effects.
- e) Classify β -adrenoceptor blockers. Mention the advantages of selective β -blockers over non-selective. Write down the indications of propranolol.
- f) Write short notes on (any two)-
 - i) Amlodipine ii) α -methyl dopa iii) Metformin

Group-C

Q.No. 3

- a) Name the insulin preparations based on duration of action. Discuss how insulin lowers blood glucose level.
- b) Explain briefly the important pharmacological effects of glucocorticoids.
- c) Name the drugs used in glaucoma. Discuss the mechanism of action and adverse effects of any 2 of them.
- d) Enumerate the ACE inhibitors. Discuss how enalapril lowers blood pressure.
- e) Name the low molecular weight heparin preparations. Mention advantages of low molecular weight heparin over standard heparin. Write down the indications of heparin.
- f) Explain: i) Role of thyroxin in hypothyroidism ii) Adrenaline with local anesthetic agent

Group-D

Q.No. 4

- a) Define & categorize different types of adverse drug reactions(ADRs) with example.
- b) Name some lipid lowering agents. Write down the mechanism of action and indications of Atorvastatin.
- c) Enumerate the insulin secretagogues. List the indications of insulin and sulphonylurea.
- d) Name the anti-platelet drugs. Write down the mechanism of action of low dose aspirin as an anti-platelet agent.
- e) Name the clinically important steroids, mention 5 indications and 3 adverse effects.
- f) Write short notes on (any two)-
 - i) Insulin resistance ii) Streptokinase iii) Carbimazole

Batch: K-71

Answer any Five questions from each group.

All groups carry equal marks.

Group-A

- a) Define bioavailability and bioequivalence. Mention the factors influencing the bioavailability of drug.
- b) Define Plasma half-life and Volume of distribution. Mention their clinical significance and the relationship between them.
- c) Mention the molecular targets of drug action. Briefly describe the receptor mediated drug action.
- d) Enlist the catecholamines. Mention why they are called so. Write down the clinical indications and adverse effects of Adrenaline.
- e) Name the alpha receptor blockers with their clinical indications. Mention the adverse effects of prazosin.
- f) Write down the differences between: (any two) i. Propranolol and Atenolol. ii. Intravenous and oral route, iii. First order and zero order kinetics.

Group-B

- a) Define drug antagonism. Briefly discuss the types of drug antagonism with example.
- b) Enlist the antimuscarinic drugs according to their clinical uses. Explain the role of atropine and pralidoxime in OPC poisoning.
- c) Justify the combination of B-blockers with thiazide diuretics as anti-hypertensive agents. Discuss how hydrochlorothiazide exerts its anti-hypertensive action. Mention its 3 adverse effects.
- d) Name the different group of drugs used in the treatment of congestive cardiac failure. Explain the role of ACE inhibitors in the management of CCF.
- e) Enumerate the anti-hypertensive agents which act by interfering on RAAS. Mention the indications and adverse effects of ARBs.
- f) Write the short notes on: (any two)
i)GTN. ii. High ceiling diuretics. iii. Amlodipine.

Group-C

- a) Briefly outline the consequences of biotransformation of a drug. Mention the involved reactions with example.

- b) Enumerate the insulin preparations based on duration of action. Write down the management of insulin induced hypoglycemic shock.
- c) Enumerate the drugs used in PUD with their objectives. Write a regimen to eradicate H pylori induced PUD.
- d) Classify Anti-coagulants. Mention why LMW Heparin is preferred in clinical practice.
- e) Enlist important lipid lowering drugs used clinically. Write down the mechanism of action and adverse effects of statins.
- f) Write short notes on: (any two)
 - i. Metformin
 - ii. HRT.
 - iii. Clopidogrel,

Group-D

- a) Define ADR. Mention different types of adverse drug reaction with example.
- b) Describe briefly the important pharmacological effects of glucocorticoids. Mention their adverse effects.
- c) Name the different iron preparations. Outline the treatment of a patient suffering from iron deficiency anaemia.
- d) Name the hormonal contraceptive agents. Mention the non-contraceptive benefits and contraindications of oral pills.
- e) Enumerate the oral antidiabetic agents. Outline the management of a pregnant women with blood glucose level of 14 mmol/L. Justify your choice of drug.
- f) Write short notes on: (any two)
 - i. Carbimazole.
 - ii. Low dose aspirin,
 - iii. Oxytocin and Ergometrine.

Batch: K-70

Full marks: 80

Answer any four questions from each group.

All groups carry equal marks.

Group-A

- a) Mention the processes of drug absorption with example. Describe how does P^H of gut and P^{Ka} of drug modify drug absorption.

- b)** Define plasma half-life and therapeutic index of drug. Mention their clinical significances.
- c)** Describe what do you mean by enzyme induction. Give its clinical significance. Give two examples of enzyme induction and enzyme inhibition.
- d)** List the drugs used in glaucoma. Mention how Timolol lowers IOP.
- e)** Compare (any two):
 - i. Potency and efficacy
 - ii. graded and quantal dose response curve
 - iii. Warfarin and Heparin

Group-B

- a)** Mention the consequences of simultaneous use of two drugs with example. Differentiate between competitive and noncompetitive antagonism.
- b)** Define neurotransmitter with example. Write down the criteria of neurotransmitters.
- c)** Define ADR. Mention the different types of ADR with example.
- d)** Briefly outline how Propranolol lowers BP. Write down four differences between Propranolol and Atenolol.
- e)** Write short notes of the following (any two):
 - i. second messenger system
 - ii. high ceiling diuretics
 - iii. low dose Aspirin

Group-C

- a)** Enlist the cholinergic drugs. Write down the management of organophosphorus compound poisoning.
- b)** Name the adrenergic drugs according to receptor selectivity. Mention the pharmacological effects of Adrenaline of CVS.

- c) List the drugs that can be used as monotherapy to treat mild to moderate HTN. Enumerate the clinical conditions where beta-blockers cannot be used to treat HTN.
- d) Write short notes on the following:
- Iron poisoning,
 - Calcium channel blockers.
 - first and zero order kinetics.

Group-D

- a) Enlist antianginal drugs. Describe how GTN relieves anginal pain.
- b) Mention the statin preparations used as hypolipidaemic drugs. Describe the mechanism of action of Atorvastatin.
- c) Enumerate the ACEIS. Describe how Ramipril acts in heart failure. Mention its possible adverse effects.
- d) Name the haematinics. Enlist iron preparations. Mention the factors influencing iron absorption.
- e) Explain the consequences of the following situations (any two):
- Adrenaline with local Anaesthetics
 - Ferrous sulphate with Antacid
 - Frusemide with Aminoglycoside

Batch: K-69

Full marks: 80

Answer any four questions from each group.

All groups carry equal marks.

Group –A

1. Define drug and Pharmacopia. Mention the sources of drugs with example.
2. Classify Diuretics depending on efficacy. Explain- hyperurecaemia is pronounced with the use of Thiazide diuretics.
3. Compare and contrast Atropine, Homatropin and Tropicamide as Mydriatics. Explain why Atropine is usually not used as Mydriatics.

4. Classify anti-coagulants. Mention why LMW heparin is preferred in clinical practice.
5. Name the anti-hypertensive drugs which act through renin-angiotensin system. Discuss the mechanism of anti-hypertensive action of Lisinopril.

Group -B

1. Define Bio-availability with calculation. Mention the factors influencing bio-availability of a drug.
2. Enlist the Catecholamines. Mention why they are called so. Write down clinical indications of Adrenaline.
3. Name the anti-anginal drugs. Explain how Nitroglycerine relieves anginal pain. Mention its adverse effects.
4. Enumerate the Lipid lowering agents. Write down the mechanism of action of Atorvastatin. Mention its side effects
5. Write short notes on: (any two) a) Loading dose b) Active transport c) Potency.

Group-C

1. Define receptor. Classify different types of receptors with example.
2. Name 3 enzyme inducers and 3 enzyme inhibitors. Mention what will happen if Rifampicin and OCP are given together.
3. Define ADR. Mention different types of ADR with example.
4. Name the cardiac glycosides. Explain the mechanism of action of Digoxin in heart failure. State the extra cardiac effects of Digoxin.
5. Write short notes on: (any two) a) High ceiling diuretics b) Antagonism c) Neurotransmitter

Group - D

1. Justify the combination of Beta-blockers with Diuretics. Mention clinical uses of Beta-blockers.
2. Enumerate the drugs used in glaucoma. Mention the sign symptoms and management of OPC poisoning.
3. Name the Fibrinolytic agents. Mention their clinical uses. Write down the adverse effects of Aspirin.
4. Enlist the Iron preparations. Name the iron antidote. Mention the type of anaemia caused by Vit. B₁₂ and folic acid deficiency.
5. Write short notes on: (any two) a) Hepatic first pass effect b) Warfarin c) ARB.

Batch: K-68

Full marks: 80

Answer any four questions from each group.
All groups carry equal marks.

Group - A

1. Name the common routes of drug administration with examples. Mention two advantages of oral route and two disadvantages of IV route. 3+2
2. Enlist the ACE inhibitors. Discuss how Lisinopril lowers blood pressure along with its adverse effects. 2+3
3. Enumerate the clinically used diuretics according to their efficacy. Discuss how Frusemide is called a high ceiling diuretic. 3+2
4. Define neurotransmitter. Write the criteria for neurotransmitter. Name source of neurotransmitter. 1+2+2
5. Write short notes on: (any two) a) prodrug b) Low dose aspirin c) Receptor.

Group - B

1. Define ADR. Mention the different types of ADR with examples. 1+2+2
2. Classify β - blockers. Discuss the extra cardiac indications of B - blockers. 2+3
3. Enumerate the indications of Thiazide diuretics. Discuss the adverse effects of Hydrochlorothiazide. 3+2
4. Enlist the cholinergic drugs. Write down the management of OPC poisoning. 2+3
5. Write down the difference between (any two) a) potency and efficacy b) agonist and antagonist c) First and zero order kinetics.

Group - C

1. Define bio-availability. Write down the factors influencing bio-availability of drug. 2+3
2. Enlist the fibrinolytic agents. Discuss the advantages of Enoxaparin. 3+2
3. Define haematinics and give examples. Mention different iron preparations along with their clinical indications. 1+2+2
4. Name the drugs used in glaucoma. Write down the mechanism of action of Brinzolamide. 3+2

5. Discuss the outcomes of (any two) a) adrenaline with local anesthetics. b) Ferrous sulphate with antacids c) Frusemide with aminoglycosides.

Group - D

1. Discuss the process of drug absorption. Explain with examples Pre- systemic elimination of drugs. 2+3
2. Name the lipid-lowering drugs used clinically. Write down the mechanism of action of Atorvastatin with its two adverse effects.2+2+1
3. Enumerate anti - hypertensive drugs that act by renin-angiotensin-aldosterone system. Discuss the advantages of using Carvedilol.3.5+1.5
4. Mention 5 Atropine substitutes along with their clinical indications.2.5+2.5
5. Write short notes on (any two) a) Second messenger system b) active tubular secretion c) α - methyl dopa

Batch: K-67

Full marks: 80

Answer any five questions from each group. All groups carry equal marks.

Group -A

1. What is pharmacokinetics? What are the important factors influencing drug absorption. 1+2.5
2. Define bio-availability. Mention the factors affecting it. 1+2.5
3. What do you mean by metabolism? What changes happen to drug after metabolism? 1+2.5
4. Define receptor. Briefly describe receptor mechanism of drug action. 1+2.5
5. What is ADR? Describe one of them. 1+2.5
6. Write short notes on: a) Physiological and pharmacological antagonists. b) Efficacy and potency. 1.75+1.75

Group-B

1. Classify anticholinesterase. Which of these are used clinically? 2+1.5
2. Enlist Atropine like synthetic drugs. What are their advantages over Atropine? 2+1.5
3. Enumerate alfa - agonists with their clinical indications. 3.5

4. Classify beta- antagonists. Compare between propranolol and atenolol. 1.5+2
5. Define neurotransmitter. Name the drugs which act on neuromuscular junction. 1+2.5
6. Write short notes on Catecholamines.3.5

Group-C

1. Classify diuretics according to site of action. What are the indications of Frusemide? 2+1.5
2. Enumerate important anti-hypersensitive drugs. Describe the mechanism of action of amlodipine. 2+1.5?
3. Describe mechanism and adverse effects of GTN. 2+1.5
4. Enlist the anti-coagulant drugs. What are the advantages of low molecular weight heparin? 1.5+2
5. Enumerate the drugs used in CCF. What are the adverse effects of cardiac glycosides? 2+1.5
6. Write short notes on : a) low dose aspirin b) Atorvastatin 1.75+1.75

Group-D

1. What are the haematinics? Write down the indications of iron therapy. 1+2.5
2. What is half life? Calculate $t_{1/2}$ of a drug having V_d 70 L and clearance 250 ml/min. 1+2.5
3. What is therapeutic index? Mention its clinical importance with example. 1+2.5
4. Enlist 3 enzyme inducers. Explain clinical importance of enzyme inducers. 1+2.5
5. Enlist drug used in glaucoma. Write down the role of pilocarpine in glaucoma. 2.5+1
6. Write down the management of OPC poisoning. 3.5

Batch: K-66

Full marks: 80

Answer any three questions from each group.

All groups carry equal marks.

Group-A

1. Define and classify drug antagonism with one example in each case. Draw and label log dose-response curve. Write its utility. 3.5
2. What do you mean by 1st order kinetics and Zero order kinetics? Name the factors that modify drug excretion through kidney? 3.5

3. What are the types of adrenoceptors? Enumerate their locations and effects on stimulation. 3.5
4. Write down short note on: a) Bio-availability b) Plasma half life

Group -B

1. Name the cardio-selective Beta- blockers. How does cardio-selective Beta-blockers lower blood pressure? Give the indications of Beta-blockers. 3.5
2. Define therapeutic index. What are its clinical significance? Enlist 3 drugs having low therapeutic index.3.5
3. Classify anti-cholinergic drugs. Explain pharmacological effects of Atropine on eye. Mention indications, adverse effects and contraindications of Atropine. 3.5
4. Write down the major classes of anti-anginal drugs. Write down the mechanism of action and adverse effects of Nitroglycerine. 3.5

Group -C

1. Name the drugs used in glaucoma. Write down the mechanism of action of these drugs in glaucoma. 3.5
2. What are the stages of coagulation? Explain mechanism of action of heparin as an anti-coagulant. Mention its contraindications. 3.5
3. Name the most commonly used anti-hypertensive agents. Explain the anti-hypertensive effects of ACE inhibitors. Mention indications and adverse effects of Calcium channel blockers. 3.5
4. What is drug? How a drug acts by receptor mechanism? 3.5

Group -D

1. Name iron preparations. Mention indications of iron therapy. How will you manage a case of acute iron poisoning. 3.5
2. Define and classify diuretics. Why Frusemide is called high ceiling diuretics? How hydro-chlorthiazide produce anti-hypertensive effects?3.5
3. Classify neurotransmitter blockers. Where they are used? Why neostigmine is used as reversal agent to regain muscle tone? Explain it. 3.5
4. Write short notes on : a) beta 2- agonist b) statins . 1.75+1.75

(2nd ASSESSMENT)

Batch: K-72

Total Marks: 80

Time: 2.5 hours

Answer any Five questions from each group.

All questions carry equal marks.

Group-A

1. a) Enlist some clinical important things you like anxiolytic agents. write down the therapeutic uses of benzodiazepine. Mention why benzodiazepine is preferred to barbiturate as sedative hipnotics ?
- b) Write down the extra pyramidal adverse effects of chlorpromazine. Mention the measures should be taken to minimize those effects. Write down the advantages of newer antipsychotic agents over older one.
- c) Write down the drug management of status epilepticus. Explain who is drug is used in epilepsy in pregnancy and why??
- d) what do you mean by balance anesthesia? mention the advantages and disadvantages of nitrous oxide.
- e) Mention the anti-parkinson drugs. justify the use of levodopa and carbidopa as combination in the treatment of Parkinson's disease.
- f) Write short notes (any two)
 - 1.monoamine hypothesis
 - 2.serotonin syndrome
 - 3.fexofenadine

Group-B

- 2.a) Name the NSAIDS with strong anti-inflammatory effect. mention pharmacological effects of Aspirin. explain antipyretic effect of Paracetamol
- b) Enlist some opioid analgesics. discuss the role of Morphine in acute MI and pulmonary edema
- c) Outline the treatment schedule of uncomplicated chloroquine resistant falciparum malaria. write down the indications of chloroquine.
- d) Mention the advantages of SSRIS over TCA. write down important indications of TCA

e) Mention the drugs used in migraine headache and list prostaglandin analogues with the indications

f) Write short notes (any two)

1. ondansetron
2. Ketamine
3. Buspirone

Group-C

3. a) Enlist the pharmacological effects of opioid analgesics. Differentiate between Morphine and pethidine.

b) Enlist the glucocorticoids used in bronchial asthma. discuss the beneficial effect of these drugs in asthmatic patient

c) Write down the TB regimen. List the main adverse effects of each regimen.

d) Name the macrolides with its clinical uses. mention how do they act. Write down the pharmacokinetics characteristic of Azithromycin.

e) Name anti amoebic drugs. give the mechanism of action & adverse effect and indication of any of them.

f) enlist the antiviral agents. what is HAART therapy? write down indications of acyclovir.

Group-D

4. a) Write down the general principles to be followed to select an appropriate antimicrobial drug in treatment of the specific infection. define super infection

b) Enumerate the anti staphylococcal penicillin. write down their indication and adverse effect

c) Name the drugs that may be used in treatment of the diarrhea. Write down the complications of ORS

d) Classify quinolones. mention the indications and adverse effects of ciprofloxacin

e) What do you mean by RUD and p drug. what factors should be considered for selection of p-drug

f) write short notes (any two)

1. chemoprophylaxis
2. time dependent and concentration dependent killing
3. Dapsone

Batch: K-71

Total Marks: 80

Time: 2.5 hours

Answer any four questions from each group.

All questions carry equal marks.

Group- A

- a) Enumerate three sedative-hypnotics. Write down the advantages of zolpidem over diazepam.
- b) Enlist the opioid receptors. Discuss the role of morphine in acute MI. Mention the antidote of morphine poisoning & addiction.
- c) Enumerate the penicillins that are used in infections by beta-lactamase producing organisms. Mention three adverse effects of penicillin.
- d) Name the first generation anti-histamines. Discuss the advantages of second generation over the first one. Mention two anti-histamines that are safe in pregnancy.
- e) Enlist four aminoglycosides. Write down two common pharmacokinetic properties of aminoglycosides. Discuss the outcome of co-administration of penicillin & gentamycin.
- f) Write short notes on (any two):
 - i.) Ondansetron
 - ii.) Low dose aspirin
 - iii.) Suxamethonium

Group-B

- a) Enumerate three antiepileptic drugs. Enlist three adverse effects of phenytoin & Na-valproate each.
- b) Enumerate NSAIDs with strong anti-inflammatory effects. Discuss anti-pyretic mechanism of paracetamol.
- c) Enlist the bronchodilators. Give the mechanism of action of theophylline. Mention the role of hydrocortisone in acute asthma.
- d) Write down three advantages of combination therapy in the treatment of pulmonary tuberculosis. Enlist five first line anti-TB drugs with one important adverse effect of each.
- e) Mention the drugs containing azole group. Compare fluconazole & ketoconazole.
- f) Write short notes on (any two) :
 - 1.) Post antibiotic effect
 - ii.) Essential drug
 - iii.) Superinfection

Group-C

- a)** Enlist the common anti-depressant drugs. Mention the advantages of SSRIs over TCAs. Give two clinical indications of TCA other than depression.
- b)** Categorize cephalosporines according to generations with two examples from each. Write down their mechanism of action.
- c)** Enlist anti-malarial drugs. Outline the drug treatment of uncomplicated falciparum malaria.
- d)** Discuss balanced anaesthesia. Mention the rationale of using oxygen along with nitrous oxide in GA.
- e)** Enlist three drugs used in cancer chemotherapy. Mention adverse effects of each drug.
- f)** Write short notes on (any two):
 - i.) Ketamine ii) P-drug iii) Co-trimoxazole

Group-D

- a)** Enumerate the drugs used in pre-anaesthetic medication along with their objectives. Give two advantages of using propofol over thiopental Na.
- b)** Define autacoids. Name the drugs that inhibit prostaglandin synthesis. Enumerate three clinically used prostaglandin analogues with their indications.
- c)** Enlist the fluoroquinolones according to their generations. Mention three adverse effects & three contraindications of ciprofloxacin
- d)** Enlist two dopaminergic & two anticholinergic drugs used in Parkinson. Briefly explain the reason of using carbidopa.
- e)** Mention three anti-psychotic drugs. Discuss the anti-psychotic effects of chlorpromazine with their three important adverse effects.
- f)** Enlist the macrolides. Compare among erythromycin, azithromycin & clarithromycin. Give three important adverse effects of tetracycline.

Batch: K-70

1. Define Neurotransmitter. Classify neurotransmitters with example. Mention four characteristics of neurotransmitter.

2. Compare the mechanism of action, safety margin and and dote of benzodiazepine and barbiturate. Mention four drug's used in induction of general anaesthesia
3. Name five antiepileptic drugs. Discuss the management of febrile convulsion in children
4. Write down the antidepressant mechanism of SSRI. Compare and contrast amitriptyline and fluoxetine
5. Enlist the antiparkinsonian drugs. Name the dopamine pathways along with their specific functions.
6. Name the drugs used in pre- anaesthetic medication with their objectives. Briefly discuss dissociative anaesthesia.
7. Mention three atypical antipsychotic drugs. Enlist the receptors on which chlorpromazine acts. Write down four adverse effects of chlorpromazine.
8. Categorize the drugs of bronchial asthma according to mechanism of action. Outline the management of acute bronchial asthma.
9. Enlist five potent NSAIDs. Discuss the anti pyretic action of diclofenac. Mention three stimulatory effects of morphine.
10. State four anti emetic drugs with clinical indications. Mention the regimen of triple drug therapy in PUD.
11. Name four prostaglandin analogues of clinical importance. Discuss the drugs used in migraine prophylaxis
12. Classify the classical antihistamins. Mention three advantages of 2nd generation over 1st generation antihistamins. Name the safe antihistamins in pregnancy.

Batch: K-69

Total Marks: 80

Time: 2.5 hours

Answer any Five questions from each group.

All questions carry equal marks.

Group- A

- a) Define and classify neurotransmitter. Discuss the steps involved in neurotransmitter.
- b) Mention the 'Amine Hypothesis'. Discuss the mechanism of action & adverse effect of Amitriptyline.
- c) Define addiction. Name three Non-Benzodiazepine hypnotics. Mention four clinical indication of Benzodiazepine.
- d) Enlist the local anesthetic agents. Outline the advantages of propofol as a component of balanced anesthetics.
- e) Compare:
 - I. Selection & levodopa Parkinsonism.
 - II. Paracetamol & Naproxen as analgesic agent.

Group- B

- a) Enumerate four important anti-epileptic agents. Discuss the general principle to be followed for anti-epileptic therapy. Mention four adverse effects of phenytoin.
- b) Enlist four NSAIDs of clinical importance. Give the mechanism of antipyretic effect of paracetamol. Enlist four adverse effect of ibuprofen.
- c) Name four atypical anti-psychotic drugs. Discuss the advantages of newer over older classical anti-psychotic drugs. Define tardive dyskinesia.
- d) Discuss the beneficial effects that are achieved due to prostaglandin synthesis inhibition. Name four prostaglandin analogues of clinical importance.
- e) Write short notes on the following:
 - I. Reye's syndrome
 - II. Anti-thyroid agents

Group- C

- a) Write down four indicators of insulin. Discuss the management of insulin-induced hypoglycemia.

- b) Enumerate four antiemetic agents. What are the difference between prochlorperazine and Metoclopramide?
- c) Mention the CNS stimulatory and inhibitory effects of Morphine. State the management of morphine poisoning.
- d) Name five hormonal contraceptive agents. Discuss the mechanism of action of combined oral pill.
- e) Write short notes on the following:
 - I. Low dose Aspirin
 - II. SSRI

Group- D

- a) Name the glucocorticoids according to the duration of action. Discuss the anti-inflammatory mechanism of glucocorticoids.
- b) Enumerate the oral anti diabetic drugs. Describe the mechanism of action of rosiglitazone.
- c) Classify antihistamines according to generations. Give four important clinical indication of chlorpromazine.
- d) Enlist three important clinically used drugs, with their common side effects for each of the following disease:
 - I. Migraine
 - II. Anxiety neurosis
- e) Explain the consequence of the following situation:
 - I. Diazepam and Chlorpheneramine given together
 - II. Nitrous oxide and Oxygen given together

Batch: K-68

Total Marks: 80

Time: 2.5 hours

Answer any four questions from each group.

All questions carry equal marks.

Group- A

- a) Define neurotransmitter. Discuss the characteristics of neurotransmitter. Define tachyphylaxis.
- b) Classify antidepressant drugs. Mention the advantages of SSRE over TCA.
- c) Classify anxiolytics with examples. Mention the difference between Benzodiazepine and barbiturates.
- d) Enlist the general anesthetic agents, what do you mean by Dissociative anesthesia?
- e) Compare:

- I. Chlorpromazine and Clozapine
- II. H₂ Blocker & Proton pump inhibitors

Group: B

- a) Enumerate the drug used in migraine prophylaxis. Name three prostaglandin analogs of clinical importance.
- b) Enlist four NSAIDs of clinical importance. Give the indications of low dose aspirin. Define tolerance.
- c) Name the pre-anesthetic medications with their objectives. Discuss the advantages of Ketamine over thiopental sodium.
- d) What do you mean by Autacoids? Write three serotonin antagonists drugs of clinical importance.
- e) Enlist important drugs used in bronchial asthma with their routes of administration. Write down the mechanism of action Theophylline.

Group: C

- a) Write down four indicators of insulin. Discuss the management of insulin-induced hypoglycemia.
- b) Enumerate the anti-secretory drugs used in peptic ulcer disease. Explain the mechanism of action of proton pump inhibitors.
- c) Enumerate the antiemetic. What are the difference between prochlorperazine and Metoclopramide?
- d) Discuss the drawback if aspirin is given in children with viral fever. Mention how paracetamol reduces fever?
- e) Write shorts notes on following:
 - I. Prokinetics
 - II. Atypical antipsychotic

Group: D

- a) Name the glucocorticoids according to the potency. Write down the metabolic effects of glucocorticoids.
- b) Enumerate four laxatives used clinically. Describe the mechanism of action of lactulose.
- c) Describe the role of morphine in acute MI. give three differences between Morphine and pethidine
- d) Enlist three important clinically used drugs, with their common side effects for each of the following disease:
 - i. Parkinsonism
 - ii. Depression
- e) Explain the consequences of the following situations:
 - i. Ferrous sulphate and antacid given together
 - ii. Levodopa and Carbidopa given together

Batch: K-67

Total Marks: 80 Time: 2.5 hours
(Answer any five questions from each group.
All questions carry equal marks.)

Group- A

- a) Name four non-benzodiazepine drugs used as anxiolytics. Write down the indication of benzodiazepine.
- b) What are the atypical anti-psychotic drugs? Compare between chlorpromazine and risperidone.
- c) Selective serotonin reuptake inhibitors (SSRIs) are better choice than TCA drugs. Do you agree? If so, Why?
- d) Name four anti-epileptic drugs. What are the adverse effects of Phenytoin?
- e) Describe the role of morphine in acute MI. Give three differences between Morphine and pethidine.
- f) Name the pre anesthetic medications used along with their objectives. Write down four neuromuscular blockers.

Group- B

- a) Enumerate four important H₁ receptor blockers. What are the advantages of cetirizine over diphenhydramine?
- b) Name two serotonin agonist and two serotonin antagonist drugs along with their clinical indications.
- c) Enlist five NSAIDs. Write down the mechanism of action of ibuprofen.
- d) Enumerate the drugs used in migraine prophylaxis, name three prostaglandin analogs of clinical importance.
- e) Enlist important drugs used in bronchial asthma with their routes of administration. Write down the mechanism of action of theophylline.
- f) Compare paracetamol and Aspirin. Write down clinical indications and adverse effects of low dose aspirin.

Group- C

- a) Classify oral anti diabetic drugs. Write down the mechanism of action of metformin.

- b) Write down four indications of insulin. How will you manage a case of insulin induced hypoglycemia?
- c) Write down the different types of hormonal contraceptives. Discuss the mechanism of action of combined oral pill.
- d) Write down the metabolic effects of glucocorticoids. Mention five adverse effects of prednisolone.
- e) Enumerate anti thyroid drugs along with their adverse effects.
- f) Write short notes on (any two):
 - i. HRT
 - ii. Insulin secretagogues.
 - iii. Salicylism

Group- D

- a) Name the drugs used to neutralize the excessive acid secretion in GIT. Why do we prefer non systemic acid neutralizer.
- b) Write down the mechanism of action of proton pump inhibitors. How does it help in “triple drug therapy”?
- c) How will you treat a patient suffering from acute watery diarrhea? Give the composition of ORS along with the role of glucose.
- d) Enumerate four laxatives used clinically. Describe the mechanism of action of lactulose.
- e) Enlist three important anti emetic drugs. Mention the limitation of metoclopramide.

Batch: K-66

1. Enlist 4 bronchodilators. How does β_2 agonist work?
2. Enumerate sedatives & hypnotics with mechanism of action of benzodiazepine.
3. Write down the drugs used in balanced anesthesia with purpose.
4. Name some drugs indicated for Parkinson's diseases? Why carbidopa is added with levodopa?
5. Enlist antipsychotic drugs. Write down the pharmacodynamics of chlorpromazine.
6. Enumerate antidepressant drugs. What are the differences between TCA and SSRI?
7. What are the pharmacological effects of morphine? Discuss its contraindications.

8. Enlist important NSAIDs. Write down the mechanism and contraindications of aspirin.
9. What is the mechanism of action of biguanides? Write down the adverse effects of sulfonylurea.
10. Enumerate the pharmacological effects of glucocorticosteroids with four indications.
11. Name five hormonal contraceptive agents. How does combined pill act?
12. Write down the mechanism of action of insulin with their indications.
13. Compare the effects of oxytocin, prostaglandin and ergometrin on uterus.
14. Tabulate H1 antagonist with comparison between first and second generation drugs.
15. Enlist four common laxatives with contraindications.
16. What are the major classes of drugs used in peptic ulcer disease? What do you mean by triple therapy?
17. What is the composition of ORS? What is the role of glucose in ORS?
18. Classify antiemetic with their major uses.
19. How will you manage a case of status epilepticus? What are the adverse effects of phenytoin?
20. Explain the drug interaction:-
 - I. Hormonal contraceptive + carbamazepine
 - II. Benzodiazepine + chlorpheniramine

(3RD ASSESSMENT)

Batch: K-70

Full marks: 80

Time: 2 hour 30 minutes

Answer any four questions from each Group. All questions carry equal marks

GROUP –A

- a) Mention the general principles to be followed while choosing an appropriate antimicrobial agent in the treatment of specific infection.
- b) Name three aminoglycosides. Mention the common properties of these drugs.
- c) Enumerate three antihelminthic drugs. Write down the mechanism of action and contraindications of Albendazole.
- d) Categorize oral anti diabetigs based on mode of action. Mention of Metformin in obesity
- e) Compare :
 - i) Amoxicillin & Flucloxacillin
 - ii) Erythromycin & Azithromycin

GROUP –B

- a) Define MIC. Discuss the steps to be take for prevention of antimicrobial drug resistance.
- b) Mention the six month regimen treatment of TB. Enlist two adverse effects each of 1st line anti TB drugs
- c) Write down four clinical indications of insulin in treating DM. Discuss the management of insulin induced hypoglycaemia.

- d) Classify antifungal drugs, mention the differences between Fluconazole & Ketoconazole.
- e. Write short notes on :
 - i) Lysosomal Amphotericin B
 - ii) Dapsone

GROUP - C

- a) Classify Cephalosporine according to generations. Give four advantages of Cephalosporines penicillin.
- b) Mention the treatment of uncomplicated Malaria caused by *P. falciparum* & *P. vivax*. Enlist the safe antimalarial drugs used in pregnancy.
- c) Explain briefly the important pharmacological effects of glucocorticoids. Mention the precautions to be taken during prolonged steroid therapy.
- d) Name three drugs indicated in Enteric fever. Mention three clinical indications of Ciprofloxacin.
- e) Write short notes on :
 - i) Cinchonism
 - ii) Antimicrobial combination

GROUP -D

- a) Outline the treatment of amoebic dysentery. Mention three indications of Metronidazole. Enlist the adverse effects of this drug.
- b) Enlist anti thyroid drugs. Explain the role of thyroxine in hypothyroidism.
- c) Enlist the drugs used in Kala-azar. Mention three adverse effects of Cotrimoxazole.
- d) Classify anti neoplastic drugs. Mention three adverse effects of anti neoplastic drugs.
- e) Explain the cause of the following situations:

- i) Using tetracycline below eight years of age.
- ii) Using penicillin with probenacid concomitantly.

Batch: K-69

Full marks: 80

Time: 2 hour 30 minutes

Answer any four questions from each Group. All questions carry equal marks

Group-A

1. Write the general principles to be followed to select an appropriate antimicrobial drug in the treatment of a specific infection.
2. Name the Beta lactam antibiotics. Mention the name of Penicillins that may be used in infections caused by beta lactamase producing organisms.
3. Write down the clinical indications and important adverse effects of Metronidazole.
4. Enlist the Aminoglycosides. Mention their common properties and adverse effects.
5. Compare:
 - i) Cephalosporins and Quinolones
 - ii) Erythromycin and Azithromycin

Group-B

1. Mention the factors responsible for the failure of antimicrobial drug therapy. Discuss how antimicrobial resistance can be avoided?
2. Name the Anti-TB drugs used in Cat-I. Write down their adverse effects.
3. Enlist the drugs used in the treatment of Kala-azar. Write down their adverse effects.
4. Name five Anti-malarial drugs. Discuss the treatment schedule of uncomplicated Chloroquine resistant malaria.
5. Write short notes on the following:
 - i) P-Drug
 - ii) Essential Drug Concept

Group-C

1. Classify Azoles according to their antimicrobial activity. Write down the mechanism of any one of them.
2. Enumerate the drugs used in bronchial Asthma. Discuss the role of steroid in different types of Bronchial Asthma.
3. Classify Tetracyclines. Compare between Tetracycline and Doxycycline.
4. Enlist the combinations of Antimicrobials used clinically. Discuss their advantages.
5. Write short notes on the following:
 - i) Broad spectrum Anthelmintic drugs
 - ii) RUD

Group-D

1. Define Super infection. Name the organisms responsible for super infection with the pathology caused by them.
2. Discuss how you will treat a case of Acute Watery Diarrhea. Write down the composition of ORS.
3. Write down the treatment of *H. pylori* induced peptic ulcer. Explain the disadvantages of systemic Antacids.
4. Name the Fluoroquinolones. Mention the indications and adverse effects of Ciprofloxacin.
5. Explain the consequences of the following situations:
 - i) Concomitant use of Aminoglycosides and Loop diuretics.
 - ii) Tetracycline and Antacid

Batch: K-68

Group-A

1. Classify antimicrobials according to their mechanism of action. Mention the β lactamase inhibitor and explain their uses.
2. Classify the anti-amoebic drugs. Write down the clinical indications and important adverse effects of Metronidazole.
3. Write down the mechanism of action of tetracycline. Compare and contrast between tetracycline and doxycycline.

4. Mention the β lactamase penicillin. Briefly discuss the mechanism of action and adverse effects of amoxicillin.
5. Explain the drug interaction between:
 - i) Aminoglycosides and loop diuretics
 - ii) Tetracycline and antacid

Group-B

1. Mention the factors responsible for the failure of antimicrobial therapy. Discuss how antimicrobial resistance can be avoided.
2. Write down the mechanism of action and indications of erythromycin. Compare between erythromycin and azithromycin.
3. Name the first line of anti-tubercular drugs. Mention the adverse effects of each of the drugs.
4. Enumerate the drugs that can be used in different types of fungal infections. Discuss the adverse effects of ketoconazole.
5. Write short notes on (any two):
 - i) EO concept
 - ii) Pyridoxine
 - iii) Super-infection

Group-C

1. Enlist orally active cephalosporin of different generators. Give two advantages and two disadvantages of ceftriaxone.
2. Outline the treatment of schedule of uncomplicated, chloroquine-resistant falciparum malaria. Mention the side effects of chloroquine.
3. Enumerate the anthelmintic drugs. Write down the mechanism of action and contradictions of Albendazole.
4. Name the fluoroquinolones. Mention the indicators of adverse effects of Ciprofloxacin.
5. Discuss the possible outcomes of:
 - i) Using tetracycline below 8 years of age
 - ii) Using penicillin with probenacid concomitantly.

Group-D

1. Enlist the aminoglycosides and mention their common properties. Mention the indication of Gentamycin.
2. Explain rational use of drugs. Enumerate the principle of rational prescribing.
3. Name the drugs used in the treatment of kala-azar. Write down the adverse effects of sodium stibogluconate.

4. Enlist the combination of antimicrobials used clinically. Discuss the advantages of combination of chemotherapeutics.
5. Write short notes on (any two):
 - i) Chemoprophylaxis for malaria
 - ii) P-drugs
 - iii) PAE

Batch: K-67

Full marks: 80

Time: 2 hour 30 minutes

Answer any four questions from each Group. All questions carry equal marks.

Group-A

1. Classify antimicrobials according to their mechanism of action. Name five protein synthesis inhibitors.
2. Write down the clinical indications and important adverse effect of Metronidazole.
3. Enlist important aminoglycosides. Mention their common properties and adverse effects.
4. Name the drugs used in enteric fever. Write down the anti-bacterial mechanism and adverse effects of Ciprofloxacin.
5. Write short notes on:
 - i) β lactamase inhibitors
 - ii) Super-infection

Group-B

1. Write down the general principles to be followed when prescribing an appropriate anti-microbial agent to treat a specific infection. What should be the criteria of an ideal antibacterial drug?
2. Outline the treatment schedule of uncomplicated chloroquine resistant Falciparum malaria. Mention the advantages of Coartem.
3. Enumerate the important macrolides. Compare and contrast among Erythromycin, Azithromycin and Clarithromycin.
4. Name anti-fungal drugs of clinical importance. Mention the difference between Fluconazole and ketoconazole.
5. Discuss the possible outcome of:

- i) Using tetracycline below 8 years of age
- ii) Using penicillin with probenacid concomitantly.

Group-C

1. What do you mean by chemoprophylaxis? Discuss the role of chemoprophylaxis in malaria endemic zones.
2. Enumerate the anthelmintic drugs. Write down the mechanism of action and contraindication of Albendazole.
3. Name the drugs used in the treatment of Kala-azar. Write down the adverse effects of sodium stibogluconate.
4. Classify anti-viral drugs. Enumerate the common adverse effects of cancer chemotherapy.
5. Explain the interaction of the following drug combinations:
 - i) Rifampicin +OCP
 - ii) Aminoglycosides + Frusemide

Group-D

1. Discuss the factors responsible for the failure of anti-microbial therapy. How can we increase the duration of action of penicillin?
2. Describe the six months regimen of tuberculosis treatment. Mention the important side effects of each of the drugs used.
3. Write down the mechanism by which resistant genes are transferred to other bacteria.
4. Name the orally active Cephalosporin of different generations. Give the advantages and disadvantages of Ceftriaxone.
5. Enlist the combination preparations of Sulphonamides. Write down the mechanism of action of Cotrimoxazole.
- 6.

Batch: K-66

Full marks: 80

Time: 2 hour 30 minutes

Answer any five questions from each Group. All questions carry equal marks

Group-A

1. What factors may be responsible for the failure of antimicrobial therapy. Write down with example.

2. How can you see antimicrobial rationality? Justify antimicrobial combination.
3. Classify antibacterial agent according to mechanism of action.
4. What is chemoprophylaxis? Give example.
5. What is antimicrobial resistance? Write down with example.
6. Write short notes on:
 - i) Super-infection
 - ii) Masking of infection

Group-B

1. Enlist β lactam antibacterial agents. What is co-amoxiclav?
2. Write down the mechanism of action and adverse effects of penicillin.
3. Classify cephalosporin with indications.
4. Enumerate macrolides. Compare between erythromycin and azithromycin.
5. Which antibacterial agents are protein synthesis inhibitors? What are the important adverse effects of Chloramphenicol?
6. Write short note on tetracycline.

Group-C

1. Write down the pharmacokinetics and adverse effects of aminoglycosides.
2. Enumerate nucleic acid synthesis inhibitors. Classify sulfonamides with uses.
3. Enlist fluoroquinolones. What are their adverse effects and contraindication?
4. Classify antifungal agents. Write short notes on Amphotericin B.
5. Write down the important clinical uses and adverse effects of metronidazole.
6. What are the major anti-helminthic agents? Enlist the indications of albendazoles.

Group-D

1. Write down the treatment of category 1 tuberculosis patient. What are the important adverse effects of first line anti-tubercular drugs?
2. Write down the complete treatment of scabies.
3. What is P- drug? A female patient 20 years old suffering from high fever with rigor, lower abdominal pain and complains of dysuria.

Urine examination reveals plenty of pus and few RBC. How will you prescribe methodically?

4. What is empirical antimicrobial therapy? Enlist the drugs used in leprosy.
5. Write down the treatment of chloroquine resistant uncomplicated malaria confirm. When and why primaquine is indicated?
6. Write short note on:
 - i) Cotrimoxazole
 - ii) HAART

MICROBIOLOGY

(1ST ASSESSMENT)

Batch: K-72

Subject- General bacteriology, Systemic bacteriology and Immunology

Full marks: 80

Time: 2:40 hours

Answer all questions. All questions carry equal marks.

1. Write the differences between eukaryote and prokaryote. How does cell wall of gram positive bacteria differ from gram negative bacteria? 2+3
2. Define chemoprophylaxis and probiotics. Briefly describe the mechanisms by which bacteria develop resistance to antibiotics. 2+3
3. Classify bacterial culture media according to consistency. How selective media differ from indicator media? Mention the advantage of solid media over liquid media. 2+1.5
+1.5
4. Differentiate sterilization from disinfection. Discuss the principles of autoclaving. 2+3
5. Enumerate the toxins and enzymes produced by Staph aureus. Write the pathogenesis of staphylococcal food poisoning, Mention the drugs used to treat MRSA infected patients? 2+2+1
6. Classify vibrio. Write the pathogenesis of cholera. 2+3
7. Discuss the pathogenesis and laboratory diagnosis of enteric fever. 3+2
8. Classify Spirochetes with the diseases they produce. Discuss the steps of laboratory diagnosis of primary syphilis. 2+3
9. Discuss the mechanism of action of tetanus and botulinum toxin. What are the clinical uses of botox? 4+1
10. Classify Streptococcus. Explain the pathogenesis of rheumatic fever. 2.5+2.5

1+2+2

11. Define antigen and hapten. Write differences between primary immune response and secondary immune response. How does active immunity differ from passive immunity? 1.5 +3.5
12. Classify hypersensitivity with examples. Explain the mechanism of development of type I hypersensitivity reaction with a diagram. 2+3
13. Define and classify immunity. State the functions of macrophage, B lymphocyte and NK cell. 2.5+2.5.
14. Mention the activators of different pathways of complement. Write the biological functions of complement. 2.5+2.5
15. Draw and label an immunoglobulin molecule. State the differences between Arthus reaction and serum sickness. 2+3
16. Classify graft rejection. What measures should be taken for graft rejection?

Batch: K-71

Full marks: 80

Time: 2:40 hours

Answer all questions. All questions carry equal marks.

1. Briefly discuss endotoxic shock. 5
2. Define selective toxicity. Discuss the mechanism of drug resistance. 2+3
3. Define critical, semi critical and non-critical objects with examples. Why spores are destroyed at lower temperature in autoclave than in hot air oven? 3+2
4. Enumerate the toxins and enzymes produced by staphylococcus aureus. Discuss the mechanism of food poisoning by staphylococcus aureus. 2+3
5. Classify streptococcus. Write the diagnosis of acute gonococcal urethritis in male patient in the laboratory. 2+3
6. Name the medically important anaerobic bacteria with diseases they produce. Briefly discuss the pathogenesis of clostridial myonecrosis 1.5+3.5
7. Classify Spirochetes with diseases they produce. Write the laboratory diagnosis of primary syphilis. 1.5+3.5

8. Write the interpretation of widal test. Briefly discuss the pathogenesis of shigellosis. 2+3
9. Define MDR & XDR TB. How pulmonary tuberculosis can be diagnosed in the laboratory? 2+3
10. Write down the life cycle of Chlamydia. Discuss the laboratory diagnosis of Helicobacter pylori infection. 2.5+2.5
11. Define and classify immunity Enumerate the differences between innate and acquired immunity. 2.5+2.5
12. Mention the difference between primary and secondary immune response. How does antigen differ from hapten? 2.5+2.5
13. Write the biological functions of complements. Mention the steps that are taken to prevent graft rejection. 2.5+2.5
14. What are MHC genes and MHC proteins? Mention the biological importance of MHC. Write a note on NK-T cell. 2+2+1
15. Define tolerance and autoimmunity. Discuss briefly activation of T'lymphocyte. 2.5+2.5
16. Discuss the mechanism of type I hypersensitivity with the help of diagram. 5

Batch: K-70

Full marks: 80

Time: 2:40 hours

Answer all questions. All questions carry equal marks.

1. What is Koch's Postulates? Discuss its limitations & new adjuncts. What do you understand by the term molecular Koch's Postulates?
2. Write down the principles of 2 staining procedures. Name 4 capsulated bacteria. What are the functions of ale? Is selective toxicity of antibiotics?
3. Write down The mechanism of action of penicillin. Mention the drugs cap be used to treat MRSA, VRSA and ESBL producing bacteria.
3. What down the mechanisms of drug resistance?
4. Name four methods of sterilizations which can destroy bacterial spore.

5. What is cold sterilization? Define critical, semicritical and noncritical objects with examples.
6. State the mechanism of endotoxin shock. Write down the clinical importance of growth curve.
7. Define normal flora. Mention the beneficial & harmful effects of normal flora.
8. Define Chemoprophylaxis, probiotics, plasmid, Transposon & generation time.
9. Name the immunocompetent cells. Describe the functions of Macrophage, CD4 & NK T cell?
10. Define complement. Name the activators of alternate pathway of complement? State the biological functions of complements.
11. Define immunogen & immunoglobulin. Write down the differences between IgG & IgM.
12. Describe activation of helper T cell to an antigen with the help of a diagram. Define hypersensitivity.
13. Discuss with diagram of type-1 hypersensitivity. What is MHC & MHC proteins? State the importance of MHC proteins in immune response.
14. Briefly discuss tumor antigens. Name 2 tumor associated antigens with their clinical importance.
16. Write the differences between agglutination and precipitation. State the principle of ELISA.

Batch: K-69

Total marks: 80

Time: 2:40 hours

Answer all questions. All questions carry equal marks.

1. List the capsulated bacteria. Enumerate the difference between Eukaryote and Prokaryote. Draw and label structure of cell wall of gram positive bacteria. 1+1.5+2.5
2. Name the spore forming bacteria. State the differences between Exotoxin and Endotoxin. 1.5+3.5
3. Define sterilization. Mention the principles of autoclave. Define critical, semi-critical and non-critical objects. 1+2+2
4. Why anerobic bacteria can't survive in presence of O₂. Enumerate the different phases of bacterial growth curve. 2+3
5. Briefly discuss selective toxicity of bacteria. Enumerate mechanism by which antibiotic resistance developed. 2+3
6. Enumerate the steps of bacterial pathogenesis. Write the limitations and new adjuncts of Koch's postulates. 3+2
7. Name the piliated bacteria. Enumerate the advantage and disadvantage of use of antibiotics in combination. 1+4
8. Define immunity. Mention the soluble and cellular components of innate immunity. State the differences between innate and acquired immunity. 1+2+2
9. Define and classify hypersensitivity. Write the immuno pathogenesis of type -II hypersensitivity. 1+1+3
10. Enumerate the classes and subclasses of immunoglobulin. Mention the biological functions of immunoglobulin. 2+3
11. Define immunogen. Discuss the criteria of a good immunogen. 1+4
12. What is MHC? State their distribution. Write the importance of MHC. 1+1.5+2.5
13. State the difference between primary and secondary immune response . Mention the functions of Macrophage. 3+2
14. Name and state the importance of different tumor markers. Discuss tumor antigens. 3+2
15. Discuss the mechanism of autoimmune diseases. 5
16. Mention the activators of different pathways of complement system. Write the biological functions of the complements. 2+3

Batch: K-68

Total marks: 80

Time: 2:40 hours

Answer all questions. All questions carry equal marks.

1. State the differences between Prokaryotic and Eukaryotic cells. Mention the non-essential components of bacteria. 3+2

2. Enumerate the structures of cell wall of a Gram negative bacteria. State the differences between Exotoxin and Endotoxin. 2+3
3. Define bacterial growth. Mention the importance of lag phase and decline phase of bacterial growth curve. 2+3
4. Classify bacteria according to oxygen requirements and Gram reaction. Why anaerobic bacteria can't grow in presence of oxygen?3+2
5. Define Koch's postulate. Describe the limitations of Koch's postulate.2+3
6. Define sterilization and disinfection. Classify sterilization by moist heat mentioning temperature and holding time of each method.2+3
7. Describe selective toxicity with two examples. Mention the differences between bacteriostatic and bacteriocidal antibiotics. 3+2
8. State the indications of antibiotic therapy in combination. Define Chemoprophylaxis and mention its indication. 2+3
9. Mention the differences between innate and acquired immunity. State the factors responsible for acquired immunodeficiency. 3+2
10. Name the antigen presenting cells. State the differences between T lymphocyte and B lymphocyte. 2+3
11. Define antigen and hapten. Mention biological functions of MHC and MHC antigens. 2+3
12. Describe the pathogenesis of type -I hypersensitivity. 5
13. State the properties of complement. Name the activators of different pathways of complement activation. 2+3
14. Define autoimmunity. Enumerate the functions of IgG and IgA. 2+3
15. Classify graft rejection. Describe Graft-versus - host reaction. 2+3
16. Classify tumor antigens and mention their importance. 2+3

Batch: K-67

Total marks: 80

Time: 2:40 hours

Answer all questions. All questions carry equal marks.

1. State the differences between Gram positive and Gram negative bacterial cell wall with diagram. 3+2
2. Define Koch's postulates with its limitations and new adjuncts. 3+1+1
3. Define normal flora. Name the normal flora of Vagina and mouth with their clinical importance. 1+4

4. Define plasmid, bacteriophage and R-factor. Briefly describe how genetic materials from one bacteria can be transferred to other bacteria? 1+1+1+2
5. What do you mean by growth and death of bacteria? Mention the importance of different phases of bacterial growth curve. 1+1+3
6. Define Endotoxin. Briefly describe Endotoxic shock. 1+4
7. Describe in short pathogenesis of bacterial disease. 5
8. Define sterilization and disinfection. Briefly describe selective toxicity of antimicrobial agents. 1+1+3
9. Define and classify immunity with examples. Write the differences between primary and secondary immune response. 3.5+1.5
10. Define immunogen and haptens. Describe the factors which increase and decrease immunogenicity of a substance. 2+3
11. Name the immune competent cells. Describe the functions of Macrophage and NK cell in innate and acquired immunity. 1+4
12. How the tumor associated antigens differ from tumor specific antigens? Discuss the importance of tumor associated antigens in clinical practice. 2+3
13. Discuss how an antigen is eliminated after formation of specific antibody. 5
14. Define hypersensitivity. Mention the primary and secondary mediators and their role in Type -I hypersensitivity. 1+4
15. Define complement. State the biological functions of complement. 1+4
16. What is MHC and MHC proteins? Discuss briefly the importance of MHC protein in immune response. 1+4

Batch: K-66

Total marks: 80

Time: 2:40 hours

Answer all questions. All questions carry equal marks.

Group –A (Immunology)

1. Mention the differences between
 - a) innate and acquired Immunity
 - b) primary and secondary immune responses.
2. Explain the Type -I hypersensitivity reaction with the help of diagram.
3. Compare and contrast T cell and B cell. Mention the functions of NK cell.

4. Define agglutination and titre. What is prozone phenomenon and how does it occur? How can we overcome the problem that occurs due to prozone phenomenon?
5. What are the important differentiating points between active and passive immunity? Name the diseases in which active -passive immunization is done at the same time.
6. Define and classify MHC. Briefly describe role of MHC in immune response.
7. Mention the types of graft rejection. How rejection of graft can be prevented?
8. Classify tumor antigens. Mention their clinical importance.

Group –B (General Bacteriology)

9. Write down the differences between a) Prokaryotes and Eukaryotes
b) Frame-shift mutation and base substitution.
10. Enumerate the differences between autoclave and hot air oven. How intravenous fluid and operation theatre can be made organism free?
11. What is selective toxicity? Mention the structures unique for bacteria that are involved in selective toxicity.
12. Discuss the structural and functional virulence factors of bacteria.
13. Classify bacteria on the basis of oxygen requirements. Describe the importance of log phase of bacterial growth curve.
14. Mention the conditions where antibiotics are used in combination. Name the process by which bacteria becomes resistant to antibiotics.
15. What do you mean by growth and death of bacteria? Define selective media, differential media and enriched media with examples.
16. Enumerate the differences between Exotoxin and Endotoxin.

(2nd ASSESSMENT)

Batch: K-72

Total marks: 80

Time: 2:40 hours

Answer all questions. All questions carry equal marks.

- | | | |
|----|---|-----|
| 1. | Mention the differences between cestode, trematode and nematode. Discuss the pathogenic effects caused by <i>Ascaris lumbricoides</i> . | 2+3 |
| 2. | Define auto-infection and retrograde infection with examples. Discuss the mode of transmission and | 2+3 |

- laboratory diagnosis of *Enterobius vermicularis* infection.
3. Discuss the mechanism of anemia in malaria and visceral leishmaniasis. Write a note on "larva migrans". 1.5+1.5+2
 4. State the pathogenesis & laboratory diagnosis of lymphatic filariasis. 2.5+2.5
 5. Give the morphological features of hydatid cyst with diagram. Discuss the laboratory diagnosis & management of hydatid disease. 2+3
 6. Mention the causes of sexually transmitted diseases. Discuss the laboratory diagnosis of a case of vaginal discharge. 1.5+3.5
 7. Name 4 protozoa causing diarrheal disease in human. Describe the pathogenesis of intestinal amoebiasis. Mention the differences between *Entamoeba histolytica* & *E. coli*. 1+2.5+1.5
 8. Name blood & liver flukes. Compare between *Taenia saginata* & *Taenia solium*. Explain why *Taenia solium* infection is more dangerous than *T. saginata* in human. 2+2+1
 9. Write morphological classification of fungus with examples. Describe the predisposing factors and lab. diagnosis of Ptyriasis versicolor. 2+3
 10. Name 5 opportunistic fungus with the diseases they produce. Describe the predisposing factors and lab. diagnosis of oral candidiasis. 1.5+1.5+2
 11. Name the neurotropic viruses. Mention the merits & demerits of live & killed polio vaccines. Name the viruses that cause congenital anomalies. 1+2+2
 12. Write down the characteristics of herpes viruses. Mention the differences between HSV-1 & HSV-2. State the complications of Mumps in male patient & why? 1.5+1.5+2
 13. Draw & label the basic structure of a virus. State the steps of replication of an RNA virus with diagram. 2+1
 14. Name the serological markers of HIV infection. Discuss the immune pathogenesis of HIV infection. State the opportunistic infections associated with AIDS. 1+2+2
 15. Name the viruses responsible for watery diarrhea. Describe the pathogenesis & lab. diagnosis of Rotavirus infection. 1+4

16. A patient reported with fever, sore throat, lymphadenopathy & splenomegaly. Hematological investigation revealed absolute lymphocytosis with 30% abnormal lymphocytes. 1
- i) What is your probable diagnosis? 0.5
- ii) Mention causative agent. 0.5
- iii) How will you confirm your diagnosis? 0.5
- iv) Name other diseases produced by this virus.
17. A patient of lymphoma has complained of severe headache. Clinical features are consistent with meningitis. 1
- i) Mention the fungal cause. 1
- ii) Name 3 tests to confirm it. 0.5
- iii) Write its mode of transmission.

Batch: K-71

Total marks: 80

Time: 2:40 hours

Answer all questions. All questions carry equal marks.

1. Classify protozoa according to organ of locomotion. State the major differences between Cestodes & Nematodes. 2+3
2. Describe the pathogenesis & laboratory diagnosis of amoebic liver abscess. 3+2
3. Define periodicity of microfilaria with example. Describe the pathogenesis and lab diagnosis of elephantiasis. 1+4
4. Describe mode of transmission of *Toxoplasma gondii* & *Enterobius vermicularis*. Describe a hydatid cyst with diagram. how Hydatid disease can be diagnosed in the lab? 2+2+1
5. Define relapse & recrudescence of malaria. Briefly describe the pathogenesis of cerebral malaria. 2+3
6. What do you mean by provocative test for filariasis, hyperinfection syndrome, auto infection & hygiene hypothesis. 5
7. Write the mechanism of anaemia in hookworm infection. Discuss laboratory diagnosis of visceral leishmaniasis. 2+3
8. Differentiate between orthomyxo & paramyxo virus. Define antigenic shift & drift. 3+2
9. Describe the pathogenesis of Dengue shock syndrome. Name 2 important serological tests for diagnosis dengue fever .4+1
10. Why HIV is called retrovirus. Enumerate the route of transmission & lab diagnosis of HIV infection. 1+4

11. Define window period of HBV and HIV infection with clinical significance. Name the serologic markers of HBV infection With their clinical importance. 2+3
12. State the complications of Rubella infection during pregnancy. Mention the measures needed after bite by a rabid animal. 2+3
13. Briefly discuss ectopic ascariasis and tropical and tropical pulmonary eosinophilia. 2.5+2.5
14. Name 4 opportunistic fungi with the disease they produce. Describe laboratory diagnosis of dermatophytosis. 2+3
15. Classify anti-fungal drugs according to mechanism of action. Write down laboratory diagnosis streptococcal meningitis. 3+2
16. Mention the ideal procedure for collection of urine & blood for microbiological examination. Mention the causes of culture negative UTI. 3+2

Batch: K-70

Total marks: 80

Time: 2:40 hours

Answer all questions. All questions carry equal marks.

Group-A

1. Classify host with example. Name parasites that use human as intermediate host. What is hyperinfection syndrome?
2. Name the blood flukes. Briefly discuss mode of transmission and lab diagnosis of Fasciolopsis buski infection.
3. Name parasites that cause autoinfection. Discuss the mechanism of anaemia produced in malaria and Diphyllbothriasis.
4. Write laboratory diagnosis and management of enterobiasis.
5. Write the modes of transmission of Toxoplasma gondii to human. Write the lab diagnosis of toxoplasmosis in pregnant lady.
6. Short note : a. Larva migrans b. Provocation test

Group-B

7. Mention the structural component of a virus. Name the atypical virus. Enumerate the stages of replication of virus.
8. Write the characteristics of Herpes virus family. Mention the complication of Measles and Mumps virus.
9. Briefly discuss the immunopathogenesis of dengue hemorrhagic fever. Write the laboratory diagnosis of rotavirus infection.
10. Briefly discuss the pathogenesis of polio virus. State the difference between street and Fixed Rabies virus.
11. Write down the mode of transmission of HIV. Give the laboratory diagnosis of HIV infection.
12. Define window period of HBV infection. Write down the seromarkers of HBV infection with interpretation.

Batch: K-69

Total Marks-80 Time 2:40 Min

Each question carries equal marks.

1. Classify parasite. Write down the laboratory diagnosis of intestinal amoebiasis.
2. Mention the differences between Cestodes and Trematodes. State the mechanism of anemia and laboratory diagnosis of *Diphyllobothrium latum*.
3. Define different types of hosts with examples. Describe erythrocytic schizogony.
4. Mention the different forms of *L donovani*. How will you diagnose a case of kala-azar?
5. Explain the pathogenesis and lab diagnosis of cerebral malaria.
6. Name the intestinal nematodes. How will you diagnose a case of enterobiasis?
7. What do you know about periodicity of microfilaria? Mention the pathogenesis of elephantiasis and laboratory diagnosis of filariasis.

8. Enumerate the infective forms of *Toxoplasma gondii* and how they are transmitted into human. Write the lab diagnosis of toxoplasmosis in a pregnant lady.
9. Name the species of *Echinococcus* with the disease they produce. Write a note on hydatid cyst.
10. Write the lab diagnosis of giardiasis. Briefly discuss cysticercosis.
11. Name the atypical virus. Write the steps of replication of a virus. Mention the process by which the virus is released from infected cell.
12. Name the viruses that enter through blood transfusion. Enumerate the characteristics of Herpes virus family. Mention the complications of measles and mumps.
13. Describe the pathogenesis and laboratory diagnosis of Rota virus.
14. Write down the pathogenesis of paralytic poliomyelitis. What measures will you take after rabid dog bite?
15. Why HIV is called retrovirus? Mention the opportunistic infection in AIDS patients and lab diagnosis of infection.
16. Define window period of HIV and HBV infection with clinical importance. Write down the different seromarkers of HBV infection with interpretation.

Batch: K-68

Total Marks-80 Time 2:40 Min

Each question carries equal marks.

1. Classify parasites. State the difference between Cestodes and Nematodes.
2. Name the free living amoebae with their mode of transmission. Write the lab diagnosis of amoebic liver abscess. 2+3
3. Define different types of hosts with example. Describe erythrocytic schyzogony of plasmodium.
4. Describe the pathogenesis of anemia in Kala-azar. How will you diagnose a case of Kala-azar? 5
5. Write the pathogenesis and lab diagnosis of cerebral malaria. 5
6. Discuss the mechanisms of anemia produced by *Ancylostoma duodenale* and *Diphyllobothrium latum* .How will you diagnose a case of tropical pulmonary eosinophilia? 3+2

7. What do you know about periodicity of microfilaria? Describe the pathogenesis of elephantiasis and laboratory diagnosis of filariasis.
8. Enumerate the infective forms of *Toxoplasma gondii* and how they are transmitted to human. Write lab diagnosis of toxoplasmosis in a pregnant lady? 2+3
9. How will you diagnose a case of enterobiasis? Describe a hydatid cyst with diagram.
10. Write the pathogenesis and lab diagnosis of giardiasis. State the differences between *Taenia saginatum* and *Taenia solium*. 1.5+3.5
11. Draw and label the basic structure of a virus. Write the steps replication of a virus.
12. Name the viruses that enter through respiratory route. Enumerate the characteristics of Herpesvirus family. State the difference between orthomyxovirus and paramyxovirus.
13. Describe the pathogenesis of dengue hemorrhagic fever and paralytic poliomyelitis.
14. State the complications of rubella virus infection in a pregnant lady. What measures you will take after rabid dog bite?
15. Why HIV is called retrovirus? Mention the mode of transmission and lab diagnosis of HIV infection.
16. Define window period of HIV and HBV infection with clinical importance. Write down the mode of liver cell injury in HCV infection.

Batch: K-67

Total Marks-100 Time 2:40 Min

Each question carries equal marks.

1. Classify parasite on the basis of organ of locomotion with examples. Define and classify host with example.
2. Enumerate the lumen dwelling protozoa. How will you diagnose a case of Kala-azar?
3. Name the pathogenic amoeba. Write the modes of transmission, pathogenesis, and lab diagnosis of disease caused by *Naegleria fowleri* infection.

4. What do you know about relapse and recrudescence of malaria? Explain the of relapse of malaria. Define airport malaria.
5. Explain the pathogenesis and lab diagnosis of cerebral malaria.
6. Name the morphological forms of toxoplasma gondii and their modes of transmission. Write the serological diagnosis of toxoplasmosis.
7. Name tissue nematodes. Explain the pathogenesis and lab diagnosis of elephantiasis.
8. Name *Echinococcus* with the disease they produce. Describe the pathogenesis of Hydatid disease.
9. Write short note-
 - a. Tropical pulmonary eosinophilia
 - b. Tropical splenomegaly syndrome.
10. Why species diagnosis is important for Plasmodium? How will you differentiate Plasmodium falciparum from plasmodium vivax in a stained blood smear microscope? Why species diagnosis cannot be done in thick film preparation?
11. Which parasite is associated with carcinoma? Why saline and iodine preparations are prepared for examination of stool? Define oviparous, viviparous, ovoviviparous parasites with example.
12. Name the intestinal and blood flukes. Briefly discuss about hyperinfection syndrome.
13. Why HIV is called retrovirus? Mention the mode of transmission and lab diagnosis of HIV infection.
14. Name the paramyxoviruses. Mention the complication of Mumps virus infection. What is antigenic shift and antigenic drift?
15. Draw and level the structure of a virus. Describe the common approaches for diagnosis of viral diseases.
16. Define window period of HBV and HIV. Mention the clinical importance of window period. How will you diagnose the infection in window period?
17. Mention the advantage and disadvantage of OPV. How will you manage a case of rabid dog bite?
18. Write the general properties of Herpes viruses. Briefly discuss about replication of virus.
19. A 35 year old male patient developed jaundice after 3 weeks of receiving one unit of whole blood-

a. What may be the possible organism responsible for hepatitis of this patient?

b. How will you confirm by laboratory test?

20. Name the Oncogenic viruses and the tumor associated with them. Describe the laboratory diagnosis of infectious mononucleosis.

Batch: K-66

Total Marks-80

Time 2:40 Min

Each question carries equal marks.

1. Why viruses cannot replicate outside host cells? Write the steps of replication of a DNA virus.
2. Name the Herpes virus with their common characteristics. Mention the difference between orthomyxovirus and paramyxovirus.
3. What do you mean by the window period of HBV and HIV infection? What is the clinical importance of window period and how will you diagnose these infections in window period?
4. Mention the mode of transmission of Rabies virus. What measures will you take after a rabid dog bite?
5. Describe the pathogenesis and laboratory diagnosis of HIV infection.
6. A patient is coinfecting by HIV and HBV. Which one will you treat first and why?
7. Classify Protozoa. Define hyper infection syndrome.
8. How will you diagnose a case of kala-azar? Mention the causes of anemia in kala-azar.
9. Write the pathogenesis and lab diagnosis of cerebral malaria. Define airport malaria.
10. Write the pathogenesis and laboratory diagnosis of amoebic liver abscess. What is hygiene hypothesis?
11. Briefly discuss the mechanism of anemia produced by *Plasmodium vivax* and *Diphyllobothrium latum*. How pathogenic *Entamoeba histolytica* can be differentiated from nonpathogenic *E. dispar* in the laboratory?
12. What are the tissue nematodes? Mention the pathogenesis of elephantiasis and laboratory diagnosis of filariasis?

13. What is auto infection and name the parasites that cause auto infection.
How will you diagnose case of enterobiasis? What is provocative test?
14. Mention the difference between Cestode, Trematode and Nematode in a tabulated form. Name the liver and intestinal flukes.
15. Name the species of *Echinococcus* with the disease they produce.
Mention the difference between *Taenia saginata* and *taenia solium*.
16. Mention the form of *Toxoplasma gondii*. How will you diagnose a case of toxoplasmosis in the laboratory?

(3RD ASSESSMENT)

Batch: K-70

Total marks: 80

Time: 2 hour 40 minutes

Answer all questions. All questions carry equal marks.

1. Write bacterial causes of meningitis. How will you diagnose bacterial in neonate?
2. Classify fungus on the basis of morphology with examples. Describe the laboratory diagnosis dermatophytosis.
3. Mention the causes where significant number of pus cells present in- urine but culture yield no growth. How will you diagnose UTI in microbiology laboratory?
4. A 12 years old boy came to you with ulcer in his oral cavity on clinical examination whitish patches on g palate and lips were seen.
 - a. what is your clinical diagnosis?
 - b. enumerate the predisposing factor of this condition.
 - c. how will you diagnose the case in laboratory.
5. Classify Chlamydia with the diseases the produce. How will you diagnose a case of acute gonorrhoea in male?

6. Mention the bacterial and fungal causes of vaginal discharge. How will you diagnose such case in laboratory?
7. Write short note on (a) Madura foot (b) opportunistic fungi (c) Fungal ball.
8. Classify vibrio. Discuss pathogenesis and laboratory diagnosis of cholera
9. Mention the diseases produced by Helicobacter pylori. Write the pathogenesis of gastritis by H. pylori. Discuss the noninvasive and invasive procedures for diagnosis of H. pylori.
10. Mention the causes of sore throat. How will you diagnose a case of fauceal diphtheria in the laboratory?
11. Write the interpretation of tuberculin test. Define MDR TB and XDR TB.
12. Mention the hallmarks of primary, secondary and tertiary syphilis. How will you diagnose primary syphilis the laboratory?
13. Write the pathogenesis of enteric fever. How will you diagnose a suspected case of enteric fever suffering for: days?
14. A farmer has handled meat 7 days back. Then he developed a maculopapular lesion on his hand, what subsequently ulcerated. What is the probable cause of it. Discuss the pathogenesis and laboratory diagnosis such lesion.
15. A patient has come to you having injuries due to road traffic accident. What steps you will take to prevent infections? Give explanation for each step to be taken.

Batch: K-69

Total marks: 80 Time: 2 hour 40 minutes
Answer all questions. All questions carry equal marks.

1. State the mechanism of Staphylococcal food poisoning. Write down the lab diagnosis of an abscess caused by *Staph. aureus*.
2. Classify Streptococcus. Write down the pathogenesis of rheumatic fever. 2+3
3. Enumerate the characteristics of Enterobacteriaceae. Mention the diarrheagenic strains of *Esche. coli*. Briefly write down the pathogenesis of shigellosis. 1.5+1+2.5
4. Mention the virulent factors of *N. gonorrhoea*. Discuss the laboratory diagnosis of acute gonococcal infection in male.
5. Enumerate the route of transmission of *Treponema pallidum*. Discuss the laboratory diagnosis of primary syphilis.
6. Classify *Vibrio cholera*. Mention the pathogenesis of enteric fever. 2+3
7. Why the obligate intracellular bacteria can't grow outside the cell? State the developmental cycle of *Chlamydia trachomatis*. Discuss Weil-Felix test. 1+2.5+1.5
8. Classify spore forming bacteria. Write down pathogenesis of clostridial myonecrosis. 1.5+3.5
9. Enumerate the causes of pyogenic meningitis. Outline the laboratory diagnosis of pyogenic meningitis.
10. Define XDR TB. Write down the interpretation of tuberculin test and Widal test.
11. Classify fungus. Write down the pathogenesis & lab diagnosis of mycetoma.
12. Mention the causes of sore throat. How will you diagnose oral thrush and bacterial pharyngitis?
13. State the pathogenesis & lab diagnosis of *Helicobacter pylori* infection.
14. Enumerate the bacterial causes of lower urinary tract infection. How will you diagnose a case of UTI in laboratory?
15. Mention the indications of blood culture. How will you collect blood for culture? What is malignant pustule?
16. Enumerate the predisposing factors for candidiasis. How will you diagnose common infectious causes of vaginal discharge in lab?

Batch: K-68

Total marks: 80 Time: 2 hour 40 minutes
Answer all questions. All questions carry equal marks.

1. Enumerate the toxin and enzymes produced by *Staph. aureus*. Write the pathogenesis of staphylococcal food poisoning. What drugs you will prescribe to treat MRSA and VRSA Infected patients?
2. Classify streptococcus on the basis of carbohydrate antigen present in cell wall. State the pathogenesis of rheumatic fever. Why ASO titer is not used in diagnosis of post streptococcal Glomerulonephritis?
3. Enumerate the cause of nongonococcal urethritis. Mention the complication of gonococcal infection of both male and female. State the laboratory diagnosis of acute gonococcal infection in male.
4. Name the *Escherichia Coli* that produce watery and bloody diarrhea. Write the mechanism of diarrhea produced by Enterotoxigenic Esch. coli. How will you diagnose it?
5. Mention the bacterial cause of UTI. How will you diagnose UTI in laboratory?
6. Classify Vibrio. Write the pathogenesis of cholera.
7. Mention the common characteristics of Entero-bacteriaceae. State the pathogenesis and laboratory diagnosis of shigellosis.
8. Mention the modes of transmission of Bacillus anthracis. Write the pathogenesis and laboratory diagnosis of cutaneous anthrax.
9. Explain the mechanism of action of tetanus toxin and botulinum toxin. What are the clinical uses of Botox?
10. Write the pathogenesis of primary pulmonary tuberculosis. State the interpretation of tuberculin test.
11. State the pathogenesis of typhoid fever. Write the lab diagnosis of typhoid fever.
12. Write the modes of transmission of T pallidum and mention the site of infection. State the diagnosis of primary syphilis.
13. Explain the pathogenesis of pharyngeal diphtheria. How will you proceed to diagnose fecal diphtheria in laboratory?
14. Name the dermatophytes. How will you diagnose ring worm infection in the laboratory?
15. Mention the factors that predispose to candida infection. How will you diagnose vaginitis caused Candida albicans? Write the lab diagnosis of cryptococcal meningitis.
16. Write the causative agents and laboratory diagnosis of Madura foot.

Batch: K-67

Total marks: 80

Time: 2 hour 40 minutes

Answer all questions. All questions carry equal marks.

1. How will you diagnose a case of chronic gonorrhoea in male patient in the laboratory? Mention the late complication of gonorrhoea.
2. Classify fungi on the basis of morphology with example. Write down the diagnosis of Tinea cruris.
3. Enumerate the common bacterial cause of UTI. Write the indication of blood culture.
4. Classify vibrio. Mention the difference between classical and Eltor biotype. Write the indication of blood culture.
5. Name the bacteria causing STD. How can you diagnose a case of primary syphilis in the laboratory?
6. Give the common characteristics of Enterobacteriaceae. Describe the pathogenesis of shigellosis.
7. Write the pathogenesis of primary pulmonary tuberculosis.
8. Classify anaerobic bacteria. Describe the pathogenesis of tetanus.
9. How will you collect blood for culture? Name the methods of blood culture. What are the interpretations of Widal test?
10. Mention the causes of sore throat. Describe the pathogenesis of diphtheria.
11. Classify the chlamydia with diseases they produce. Describe Well-Felix test.
12. Classify staphylococci. Name the diseases produced by different staphylococci. Mention the importance of streptokinase.
13. Enumerate different procedures of anaerobic culture. Describe Clostridial myonecrosis.
14. Describe the pathogenesis of enteric fever.
15. Name the condition where significant number of pus cells are presenting in urine without yielding growth in culture. How can you diagnose a case of UTI in the laboratory?
16. Write the predisposing factors and lab diagnosis of oral candidiasis.

Batch: K-66

Total marks: 80

Time: 2 hour 40 minutes

Answer all questions. All questions carry equal marks.

1. How can you diagnose a staphylococcal abscess clinically and by laboratory test?
2. Discuss the pathogenesis of enteric fever and the lab diagnosis of Salmonella carrier,
3. Name the bacteria causing neonatal meningitis. Mention the difference in microscopic and biochemical findings of meningitis caused by pyogenic bacteria and viruses.
4. Why UTI is more common in female? Describe the lab diagnosis of UTI.
5. Classify atypical mycobacteria. Describe the lab diagnosis of pulmonary TB.
6. What are the indications of blood cultures? Describe the procedure for collection and methods of blood culture.
7. Describe the pathogenesis of cutaneous anthrax and lab diagnosis of leprosy.
8. Classify anaerobic bacteria. Describe the lab diagnosis of primary syphilis.
9. Classify Chlamydia with the diseases they produce. Describe Well- Felix test.
10. Define Nosocomial infection. How nosocomial infection can be prevented?
11. Mention the bacterial toxins that act by ADP ribosylation. State the pathogenesis of bacillary dysentery.
12. A patient came to you with dysuria and urethral discharge. Patient gave history of sexual exposure seven days back.
 - a) Mention the possible clinical diagnosis.
 - b) Mention the findings of gram stained smear
 - c) Will this patient develop immunity against the causative bacteria? Explain.
13. Name the opportunistic fungal agents. Describe the lab diagnosis of Cryptococcal meningitis.
14. How will you collect and prepare samples for microscopic examination for diagnosis of dermatophytosis? Mention the microscopic findings.
15. Mention the pre disposing factors for vaginal candidiasis. Describe the lab diagnosis of vaginal candidiasis.

16.A patient came to you with hypo-pigmented areas in the skin of neck and chest. Microscopic examinations of skin scraping revealed short hyphae and cluster of yeast cells.

- a) Mention your diagnosis
- b) Is it a dimorphic fungus? Give points in favor of your answer.
- c) Mention the differential diagnosis of hypopigmentation in the skin.

PATHOLOGY

(1ST ASSESSMENT)

Batch: K-72

Full marks: 80

Time: 2:30 hours

Answer any eight questions from the of each group

Group-A

1. a) What are the cellular adaptive changes? Give example of metaplasia.
Why metaplasia is called to as two edged sword?
2. What are the vascular changes of inflammation. State the pathophysiological classification of edema.
3. What is granuloma? List five causes of granulomatous inflammation. Give the mechanism of immune granuloma.
4. What are the factors that influence wound healing? Mention the complications of wound healing.
5. What do you mean by apoptosis? Differentiate apoptosis from necrosis.
6. Mention the features of anaplasia. What do you mean by tumor Staging and grading?
7. Short note. a) paraneoplastic syndrome b) metabolic alkalosis =.
8. A female of 20 years presents with acute swelling with pain and redness on forearm. What is your provisional diagnosis? What are the chemical mediators of pain here?
9. A 55 years old male has a blood pressure of 150/100 mm hg. Mention the adaptive changes that will work or if BP persists high for long time. Mention the differences between hypertrophy and hyperplasia.

Group-B

1. Write down the morphological classification of anaemia with examples. how will you diagnose a case of Beta Thalassaemia.
2. What do you mean by leukaemia? How will you proceed to diagnose a case of ALL in the laboratory.

3. Mention the cause of pancytopenia. Give the laboratory diagnosis of ITP
4. Classify hemorrhagic disorders. What are the hemorrhagic screening test?
5. Classify AML. give the PBF of CGL.
6. What are the blood products that can be transfused? Which anticoagulant is used in blood bank? Mention the screening test done before blood transfusion
7. Short note a) blast crisis b) polycythemia
8. A male of 50 years with long chronic duodenal ulcer has developed excessive vomiting. what will be his electrolyte and acid-base status?
9. A boy of 7 years old has presented with fever, bone pain, bleeding, cervical lymphadenopathy. what is your provisional diagnosis? mention father investigation that you will suggest.

Batch: K-71

Full marks: 80

Time: 2:30 hours

Answer **question no 5** and any **three (3)** from the of each group

Group-A

1. a) What are the patterns of reversible cell injury? Mention the light microscopic and ultrastructural changes. 3
 b) Describe a granuloma with diagram. Name 5 cause of granulomatous inflammation. 3
2. a) What are the vascular changes of acute inflammation? Give an outline about the vascular event. 3
 b) What is metaplasia? Give example. Write down the difference between metaplasia & neoplasia. 3
3. a) What Are the factors that influence wound healing? What are the complications of wound healing? 3
 b) Mention the features of autosomal dominant disorder. Give three examples. 3
4. Short note: a) Type of hypersensitivity with example. b) Fate of primary TB. 3+3
5. A female of 20 yrs. presents with acute swelling on forearm with pain and redness. What is your diagnosis? What are the causes of pain here? 2

Group-B

1. a) Mention the morphological classification of anemia & give example. 3
b) What are the causes of microcytic hypochromic anemia? 3
- 2.a) Classify intra corpuscular causes of hemolytic anemia. 3

b) Give the lab diagnosis & bone marrow finding of macrocytic anemia. 3
3. a) What are the complications of blood transfusion? 3
b) Give the blood picture of CGL. What is blast crisis? 3
- 4.Short note: a) Thalassemia. b) ITP 3+3
- 5.Name the screening test of hemorrhagic disorders with normal values. 2

Group-C

- 1.a) What are the risk factors of atherosclerosis? 3
b) Mention the complication of MI. What are the enzymes increases in MI? 3
- 2.a)Write down the differences between Hodgkin and non-Hodgkin lymphoma. 3

b) Mention the type of infective endocarditis with causative organism and complication. 3
3. a) What are the causes of eosinophilia? What are the normal hemoglobin? 3
b) What are the points to be noted during bone marrow examination? 3
- 4.Short note: a) Rh incompatibility. b) Jones criteria. 3+3
5. 55 yrs female present with bone pain, soft tissue swelling & punched out lesions in bone X-Ray. What is your probable diagnosis? What investigation you will advice ? 2

Group-D

1. a) Name the pathological category of edema. Write down the mechanism of edema in heart failure? 3
b) What do you mean by tumor staging and grading? 3
2. a) What are the features of anaplasia? Mention the compensatory mechanism of the shock. 3
b) Mention the fate of thrombus. Name the important electrolytes with its normal values. 3
3. a) Name childhood tumours according to age. What is PEM? 3
b) What are the complications of vit-A deficiency? 3
4. Short note: a) Indoor air pollution. b) Paraneoplastic syndrome. 3+3
5. A 34 yrs. Male present with vomiting for two days. What will be the metabolic abnormalities? 2

Batch: K-69

Full marks: 80

Time: 2:40 hours

Answer any eight questions including question No: 9

1. a) What are the cellular responses to injurious stimuli? Define metaplasia. Give examples of different types of metaplasia. 2+1+2
b) What is apoptosis? How does it differ from necrosis? Write the patterns of necrosis. 1+2+2
2. a) Define acute inflammation. What are the vascular changes of acute inflammation? What are the differences between exudates and transudates? 1+2+2
b) What are the steps of phagocytosis? Write oxygen dependent mechanism in microbial killing. 2+3
3. a) Write the features of chronic inflammation. Name 5 causes of granulomatous inflammation. Mention local factors influencing on healing. 2+1+2
b) Write the steps of wound healing. Mention the complications of wound healing. 3+2
4. a) What is Virchow's triad? Name the different types of emboli. Write factors influencing on infarction. 1+2+2
b) What is shock? Mention the types of shock. Give the pathogenesis of septic shock. 1+2+2
5. a) What are the features of anaplasia? What do you mean by Grading and Staging of tumour? 2+3
b) Write the differences between benign and malignant tumor. Write the mechanism involved in the spread of tumor. 2+3
6. a) Define PEM. What measures help in diagnosis of PEM? How does marasmus differ from kwashiorkor? 1+2+2
b) Define autoimmune disease. Name 5 organ- specific autoimmune disease. What are the differences between active and passive immunity? 1+2+2
7. a) Write causes of Pancytopenia. Give the bone marrow findings of aplastic anaemia. 3+2
b) Mention the causes of Iron deficiency anaemia. What is Iron profile? 3+2
8. a) What are the causes of Microcytic hypochromic anaemia? Give the laboratory diagnosis of thalassemia major. 2+3
b) Mention the RBC indices with their normal values. Give the morphological classification of anaemia. Mention the causes of Megaloblastic anaemia. 1+2+2

9. Write short notes on :
- pathological calcification
 - paraneoplastic syndrome
 - systemic thromboembolism.

Batch: K-68

Full marks: 80

Time: 2:40 hours

Answer any eight questions including question No: 9

- What are the cellular responses to injurious stimuli? Define hyperplasia and give examples of physiological and pathological hyperplasia. 2+1+2
 - What are the types of necrosis? Name the enzymes activated by increased intracellular Ca level. Write nuclear changes in necrosis. 1+2+2
- What are the steps of phagocytosis? Write oxygen dependent mechanism in microbial killing. 2+3
 - What are the vascular changes in acute inflammation? Name 5 causes of granulomatous inflammation. Define granuloma. 2+2+1
- What is shock? Name different types of shock. Give the pathogenesis of septic shock. 1+1+3
 - What are the sources and fates of pulmonary embolism? Write factors influencing infarction. 3+2
- What is granulation tissue? Mention factors influencing wound healing. What are the complications of wound healing? 1+2+2
 - Write steps of wound healing. What are the differences between healing by First intention and healing by Second intention? 2+3
- Write features of anaplasia. Write mechanisms involved in the spread of tumor. 2+3
 - What do you mean by grading and staging of tumor? What are benefits and limitations of FNAC? 3+2
- What is malnutrition? How marasmus differ from kwashiorkor? Name the cancers produced by Ultraviolet rays and ionizing radiation. 1+2+2
 - What is autoimmune disease? Name 5 organ- specific autoimmune diseases. 2+3
- Mention causes of Microcytic hypochromic anaemia. Give the laboratory diagnosis of Iron deficiency anaemia. 2+3
 - Give 5 important causes of Pancytopenia. Write bone marrow findings of aplastic anaemia. 2+3
- Mention the functions of Vitamin A. What are the effects of Vitamin D deficiency? What are the differences between osteomalacia and rickets? 1+2+2

- b) Write short notes on: i) DIC ii) Metaplasia. 2.5+2.5
9. a) A boy of 8 years presented with mild jaundice, severe anaemia and splenomegaly. His PBF shows target cells, nucleated and fragmented red cells. What is your diagnosis? Write confirmatory investigations with findings. 2+3
10. b) Write short notes on: i) Thalassemia major ii) Hb-S iii) Trepphine biopsy.

Batch: K-67

Full marks: 80

Time: 2:40 hours

Answer any four questions including Q no: 5 which is compulsory.

All questions carry equal marks.

1. a) What are the features of reversible cell injury? Give the consequences of decreased intracellular ATP during cell injury. 2+3
- b) What is apoptosis? How it differ from necrosis? Mention role of apoptosis in producing tumor. 1+3+1
- c) What is pathological calcification? Mention its types. Write causes and sites of metastatic calcification. 2+1+2
- d) Write short notes on: i) DIC ii) Metaplasia 2.5+2.5
2. a) Write the steps of phagocytosis. Write Oxygen dependent mechanism in microbial killing. 2+3
- b) Give morphological pattern of acute inflammation. What is ulcer? Mention 4 causes of non-healing ulcer. 2+2+1
- c) Name 5 causes of granulomatous inflammation. Mention role of activated T lymphocytes in producing immune granuloma. 1+2+2
- d) What is granulation tissue? Mention factors influencing wound healing. What are the complications of wound healing? 1+2+2
3. a) What do you mean by grading and staging of tumor? Write sequential steps in tumor diagnosis. 3+2
- b) Name the oncogenic viruses with their associated tumor. What is the role of HPV in producing cervical cancer? 3+2
- c) What do you mean by biology of tumor growth? What is the importance of growth fraction? 3+2
- d) Write short notes on: i) paraneoplastic syndrome
ii) Tumor marker. 2.5+2.5
4. a) What is edema? What are the pathological categories of edema? Give the mechanism of edema in inflammation. 1+2+2
- b) What is infarction? What are the common sites of infarction? What is heart failure cell? 2+2+1

- c) What is thrombosis and embolism? What is Virchow's triad? What are the sources of pulmonary and systemic embolism? 2+1+2
- d) What is autoimmune disease? Mention mechanism of tolerance. Name 5 organ-specific autoimmune diseases. 2+2+1
5. a) What is shock? Mention the types of shock. Give the pathogenesis of septic shock. 1+1+3
- b) What is malnutrition? How marasmus differ from kwashiorkor? Why immune status low in malnourished person? 1+2+2
- c) Name the cancers produced by Ultraviolet rays and ionizing radiation. Why ionizing radiation is called double-edged sword? 3+2
- d) A 20 years young male presented with recently developed painful swelling in mid thigh with raised local temperature. What is your probable diagnosis? What molecules are responsible for pain in this case?

5

Batch: K-66

Full marks: 80

Time: 2:40 hours

Answer any sixteen questions including Question no: 17

1. a) Give the morphological classification of anaemia.
b) What are the different absolute values? Give their normal values with units for each. 2+3
2. a) Give the normal values of different tests included in Iron profile. Mention the conditions where iron profile is indicated.
b) What are the causes of iron deficiency anaemia? 3+2
3. a) Name the common anti-coagulant used in laboratory.
b) Mention the mechanism of action of anti-coagulant. 2+3
4. a) What is granulopoiesis?
b) Mention the stages of granulopoiesis.
c) Mention two conditions where granulopoiesis is increased in bone marrow. 1+3+1
5. a) What is Pancytopenia?
b) How can you differentiate a case of sub-leukemic acute leukemia and aplastic anaemia? 2+3
6. a) What are the types of ALL?
b) Which age group is usually affected by ALL?
c) Mention the laboratory diagnosis of ALL? 2+1+2
7. a) What is leukaemoid reaction? Give its types with examples.
b) Differentiate between leukemia and leukaemoid reaction.
c) Mention the condition where NAP is increased. 2+2+1

8. Write short notes on: i) Leukoerythroblastic blood picture ii) Coomb's test. 2.5+2.5
9. a) What is macrocytic anaemia? Name the types of macrocytic anaemia. 1+2+2
 b) Why is Megaloblast formed? 1+2+2
10. a) Name the screening tests for haemorrhagic disorder. Give their normal values. 3+2
 b) Which type of parasites can be identified in PBF? 3+2
11. a) What do you mean by DIC? 1+2+2
 b) Give its causes. 1+2+2
 c) Mention the laboratory diagnosis of DIC. 1+2+2
12. a) What are the causes of thrombocytopenia? 2+3
 b) Give the laboratory diagnosis of ITP. 2+3
13. a) Name the immune antibodies. 2+3
 b) What are the diseases transmitted by blood transfusion? What are other complications? 2+3
14. a) What is thalassemia and hemoglobinopathy? 2+3
 b) What are the evidences of increased hemoglobin breakdown in case of hemolytic anaemia? 2+3
15. Write short notes on: i) Hemoglobin electrophoresis ii) Buffy coat examination. 2.5+2.5
16. a) Name the types of anaemia where bone marrow examination is needed. 2+3
 b) What are the points to be noted in a bone marrow study? 2+3
17. a) What is paraproteinemia? Name 2 causes of paraproteinemia. 2+3
 b) A female of 65 years has presented With ESR 140 in 1st hour, low back pain and raised serum alkaline phosphatase level. What is your probable diagnosis? 2+3

(2nd ASSESSMENT)

Batch: K-72

Full marks: 80

Time: 2:30 hours

Answer all questions.

- I. a) What are the components atheromatous plaque ? Mention the predisposing factors and complication of this plaque. (1+4)
 b) What is emphysema? Give etiopathogenesis of pulmonary emphysema. (1+4)

- 2) What is cirrhosis of liver? Name the etiology and consequence of cirrhosis of liver. (2+3)
- b) What are the Inflammatory Bowel Diseases? Mention the differences of Crohn's disease and Ulcerative Colitis. (1+4)
- 3.a) What is Goiter? What are the causes of Hypothyroidism and hyperthyroidism? (1+4)
- b) A boy of 8 years old presented with puffiness of face with scanty high colored urine formation, raised blood pressure. What is your provisional diagnosis? How would you investigate such a case? Mention the investigations. (2+3)
- 4.a) Classify germ cell tumors of ovary. What is chocolate cyst? (3+2)
- b) Short Note
- i) Point mutation ii) Giant cell tumor of bone (2.5+2.5)
- 5.a) What is CIN? Mention the important risk factors and diagnostic tools for carcinoma of cervix. (1+4)
- b) What are the differences between Hodgkin lymphoma and Non Hodgkin Lymphoma. Describe a classic Reed -Steenberg cell. (3.5+ 1.5)
6. a) Classify lung tumor. Name the genetic basis of adenocarcinoma of lung. (3+2)
- b) Short Note: 1) Carcinoid Tumor 2) Pott's disease. (2.5+2.5)
7. a) What are the indications of CSF examination? Give important differences between viral, bacterial and tubercular meningitis in CSF (1+4)
- b) Short note: 1) Down Syndrome 2) Vegetation (2.5+2.5)
8. a) Mention the WHO criteria Diabetes Mellitus Give complications of Diabetes Mellitus.
- b) Short Note 1) Liver function test 2) Azoospermia (2.5+2.5)

Batch: K-71

Full marks: 80

Time: 2:30 hours

Answer **question no 5** and any **three (3)** from the of each group.

Group-A

1. Classify breast carcinoma? Write down the risk factors involved in breast cancer.
2. What is osteomyelitis? Name the causative organism with route of entry. Give the pathogenesis of pyogenic osteomyelitis.

3. What are the inflammatory bowel disease? Write the difference between Ulcerative colitis and crohn's disease.
4. Write short notes on: a) Ewing's sarcoma b) DUB.
5. A boy of seven years presented with high coloured urine, generalized edema, fever, hypertension. He had sore throat 15 days ago. What is your probable diagnosis? What investigations will you suggest?

Group-B

1. Define and classify pneumonia. What are the stages of bacterial lobar pneumonia? How will you investigate such a case?
2. What is endometriosis and adenomyosis? What are their complications.
3. Mention the difference among viral, Bacterial and Tubercular meningitis.
4. Write short notes on : a) Ketoacidosis b) Autoimmune gastritis.
5. A female of 65 years has presented with a left irregular breast lump in upper and outer quadrant which is hard in consistency, fixed with the underlying chest wall inverted nipple with bloody discharge. What is your probable diagnosis? How Will you proceed to diagnose the patient?

Group-C

1. Define emphysema? What are the types of emphysema? Write down the pathogenesis of emphysema.
2. Mention the risk factors of gastric carcinoma. Write down the difference between benign and malignant gastric ulcer.
3. Write down the name of germ cell and sex cord stromal tumours of ovary. What is Teratoma? Mention the morphology of teratoma.
4. Write short notes on : a) DIF b) Hurshprung Disease.
5. A male of 40 years having history of blood transfusion presented with nausea, vomiting, severe weakness, mild fever, jaundice and right hypochondrial pain. What is your probable diagnosis? Mention its outcome.

Group-D

1. What is azospermia? What are the causes of azospermia? Write down the indication of semen analysis.
2. What is goiter? What are the causes of hypo and hyper thyroidism? How will you proceed to investigate a case of hyperthyroidism?
3. What is Ghon complex? Write down the pathogenesis of pulmonary tuberculosis? Give the diagnosis of pulmonary tuberculosis.
4. Write short notes on : a) Carcinoid tumor b) Pneumoconiosis.

5. A female of 50 yrs presented with lower abdominal pain and per vaginal bleeding. Colonoscopic finding shows ulceration. what is your probable diagnosis? How will you confirm?

Batch: K-70

Total Marks: 80 Time: 2 hours 40 min

Answer all questions.

Group-A

1. Define leukaemia Give blood picture of Chronic granulocytic leukaemia. What is 'blast crisis'?
2. Classify bleeding disorder. Mention the screening test for diagnosis of bleeding disorder.
3. Write clinical presentation and laboratory diagnosis of haemophilia.
Short note: (i) Leukaemoid reaction (ii) DIG
5. Write down the hazards of blood transfusion.
6. 18 yrs. male shows the following blood picture Hb% 12.5 gm/dl, WBC-11,000/mm³, N-55%L 26% M-04%, B-00%, Platelet normal. What is your provisional diagnosis? What are the causes of it?

Group-B

1. What is diabetes malitus? How ketoacidosis developed in uncontrolled diabetes?
2. What is proteinuria? Write common causes of massive proteinuria.
3. Name liver function test. Give important differences between three types of jaundice.
4. Short note: (i) Azotemia. (ii) Conjugated bilirubin.
5. What is the indication of DSF examination? Write down DSF findings of viral, bacterial and tubercular meningitis.

6. A 8 yrs. boy presented with oedema, raised blood pressure and RBC cast in urine. What is your probable diagnosis/How would you proceed to investigate this case?

Batch: K-69

Total Marks: 80

Time: 2 hours 40 min

Answer all questions.

Group-A

1. What are indications of CSF examination? Write down CSF findings of viral, bacterial and tubercular meningitis.
2. What are the tests include in lipid profile? Give their normal values. Why high level of LDL is harmful?
3. What is diabetes mellitus? Give WHO criteria of DM. Write the complication of DM.
4. What is massive proteinuria? Write common causes of proteinuria.
5. Name the electrolytes with normal values. Write the causes metabolic acidosis & alkalosis.
6. Write short notes on: i) Azotemia ii) Glycosylated Hb
7. Name liver function test. Give the important biochemical differences in three types of jaundice.
8. A 50 years old female present with polyuria, polyphagia. Her random blood sugar is 9 mmol/L. What is probable diagnosis? How would you proceed to investigate this case?

Group-B

1. Give blood picture of chronic granulocytic leukemia. What is blast crisis?
2. Classify bleeding disorder. Mention the screening test for diagnosis of bleeding disorder.
3. Write down indication of bone marrow examination. What are findings to be noted in BM examination?
4. Classify leukemia. Write the bone marrow findings of acute leukemia.

5. Write clinical presentation and laboratory diagnosis of hemophilia.
6. Write short notes on: i) DIC ii) Leukemoid reaction
7. Write the hazards of blood transfusion. Mention the clinical presentation of ITP.
8. A 18 years old male patient shows the following blood picture. Hb-12.5 g/dl, TC of WBC 11000/mm³, N-55%, L-26%, E-15%, M-04%, B-00%, Platelet-normal. What is your diagnosis? What are the causes of it?

Batch: K-68

Total Marks: 80 Time: 2 hours 40 min

Answer all questions.

Group-A

1. What are the indications of CSF examination? Write down the CSF findings on viral, bacterial and tubercular meningitis. 2+3
2. What are tests included in the lipid profile? Give their normal values. Why high level of LDL is harmful? 1+2+2
3. What is Diabetes Mellitus? How ketoacidosis develop in case of uncontrolled diabetes? 1+4
4. What is massive proteinuria? Write common causes of massive proteinuria. 1+4
5. Name the electrolytes with their normal values. Write the causes of metabolic acidosis and alkalosis. 2+3
6. Write short notes on: i) Azoospermia ii) Conjugated bilirubin 2.5+2.5
7. Name four important causes for assessing the synthetic function of liver. Give important biochemical differences in three types of jaundice. 2+3
8. A 8 years boy presented with oedema, raised blood pressure, weakness and RBC cast in urine. What is your probable diagnosis? How you proceed to investigate to this case? 2+3

Group-B

1. Give blood picture of chronic granulocytic leukemia. What is blast crisis?
2. Write down the causes of bleeding disorder. Mention the screening test for diagnosis of bleeding disorder.

3. Write down the indication of bone marrow examination. What are the findings to be noted in bone marrow examination?
4. Classify leukemia. Write the bone marrow findings of acute leukemia.
5. Write clinical presentation and laboratory diagnosis of haemophilia.
6. Write short note on: i) DIC ii) Philadelphia chromosome
7. Write the hazards of blood transfusion. Mention the clinical presentation of ITP.
8. A male patient show the following blood picture: Hb-12.5 gm/dl, TC of WBC- 14000/mm³. N-19%, L-74%, M-04%, B-00%, Platelet-normal. What is your diagnosis and write down the causes.

Batch: K-67

Total Marks: 80

Time: 2 hours 40 min

1. a) Give the blood picture of chronic granulocytic leukemia. What is blast crisis?
b) Write down the causes of bleeding disorders. Write hazards of blood transfusion.
c) Write down the indications of bone marrow examination. What are the findings to be noted in bone marrow examination?
d) Write short notes on: i) DIC
 ii) Metabolic acidosis
 iii) Philadelphia chromosome
2. a) Mention the screening tests and special tests for diagnosis of bleeding disorder.
b) Classify leukemia. Write the bone marrow findings of acute leukemia.
c) Write the clinical presentation and lab. Diagnosis of Hemophilia.
d) A male patient shows the following blood picture. Hb-12.5 gm/dl, TC of WBC-14000/mm³. N-19%, L-74%, E-3%, M-4%, B-0%, Platelet-normal. What is your diagnosis? What are the causes of it?
3. a) What are the indications of CSF examination? How will you differentiate between bacterial and tubercular meningitis?

- b) What are the renal function tests? Give the WHO criteria for diagnosis of Diabetes Mellitus.
- c) What are the liver function tests? What are the differences between hepatocellular and obstructive jaundice?
- d) A woman of 50 years age presents with polyuria, polyphagia. Her random blood sugar is 9 mmol/L. What is your plan of investigation probable diagnosis?

Batch: K-66

Group-A

1. a) What is Pancytopenia?
b) How can you differentiate a case of sub-leukemic acute leukemia and aplastic anaemia? 2+3
2. a) What are the types of ALL?
b) Which age group is usually affected by ALL?
c) Mention the laboratory diagnosis of ALL? 2+1+2
3. a) What is leukaemoid reaction? Give its types with examples.
b) Differentiate between leukemia and leukaemoid reaction.
c) Mention the condition where NAP is increased. 2+2+1
4. Write short notes on: i) Leukoerythroblastic blood picture ii) Comb's test. 2.5+2.5
5. a) Name the screening tests for hemorrhagic disorder. Give their normal values.
b) Which type of parasites can be identified in PBF? 3+2
6. a) What do you mean by DIC?
b) Give its causes.
c) Mention the laboratory diagnosis of DIC. 1+2+2
7. a) What are the causes of thrombocytopenia?
b) Give the laboratory diagnosis of ITP. 2+3
8. a) Name the immune antibodies.
b) What are the diseases transmitted by blood transfusion? What are other complications? 2+3
c) What are the points to be noted in a bone marrow study? 2+3
9. a) What is paraproteinemia? Name 2 causes of paraproteinemia.
b) A female of 65 years has presented With ESR 140 in 1st hour, low back pain and raised serum alkaline phosphatase level. What is your probable diagnosis? 2+3

Group-B

1. Name the body fluids examined in clinical practice. How pleural fluid help us to diagnose a lung lesion with opacity?
2. Write down the renal function tests. Why serum creatinine level is more specific than urea level as renal function tests? When does urinary specific gravity become fixed irrespective of water intake?
3. Define anion gap. Mention causes of metabolic acidosis. A male of 50 years with pyloric stenosis suffering from repeated vomiting. What would be his acid base status?
4. What are the causes of massive proteinuria? What is Bence Jones protein? How can you detect it in urine?
5. Write short notes on: a) Alimentary glycosuria b) Occult blood test .c) Hyperglycemia
6. What is OGTT? Write the diagnostic criteria for diagnosis of DM.
7. A female of 40 years with severe upper abdominal pain followed by pale colored stool and predominantly conjugated hyperbilirubinemia. What is the probable diagnosis? What would be the findings in enzyme analysis in this case?

(3RD ASSESSMENT)

Batch: K-70

1. a) What do you mean by nephritic syndrome? Discuss briefly the aetiopathogenesis of poststreptococcal glomerulonephritis?
b) What are the factors which favor stone formation within the gallbladder? Write the pathogenesis of ascites in cirrhosis?

- (c) Classify bone tumor.
- (d) Write short notes:
 i) RS cell, ii) Graves disease
- (e) A 60 years old female presented with irregular per-vaginal bleeding for one month after menopause. Per-vaginal examination found a growth in cervix. What is your provisional diagnosis? What are the risk factors responsible for this condition? What are the risk factors responsible for condition? What is CIN?
2. (a) Classify breast carcinoma. State the major and minor prognostic factors for the carcinoma of breast.
- (b) What is emphysema? Give the pathogenesis of pulmonary emphysema.
- (c) Name the ischaemic heart diseases with the risk factors. What are the complications of MI?
- (d) Write short notes: (i) Osteomyelitis, (ii) Renal cell carcinoma,
- (e) A male of 59 years has presented with weakness, tiredness and hepatomegaly for few months. He has got history of hepatitis B virus infection few years back. USG reveals a SOL in the right lobe of liver. How will you proceed to diagnose the patient and what is your expected finding?
3. (a) Name the ulcerated lesion of GIT. Mention most important difference between Crohn,s disease and Ulcerative colitis.
- (b) Classify surface epithelial tumor of ovary. What is endometriosis and adenomyosis.
- (c) Give 4 difference between Hodgkin and Non- Hodgkin lymphoma? What is the different type of Hodgkin lymphoma.
- (d) Write short note: 1) Atheromatous plaque. ii) Ewing's sarcoma.

(c) A boy of 8 years presented with edema, weakness, raised BP and RBC cast in urine. What is your provisional diagnosis? How would you proceed to investigate the case?

Batch: K-69

Full Marks: 80

Time: 2 hour 40 minutes

(Answer any eight questions, Question no. 9 is compulsory.)

1. a) Name the Ischemic heart diseases. Write down the pathogenesis of atherosclerosis. 1+4
b) What is peptic ulcer? What are the common sites? Give morphology and important complications of peptic ulcer.
2. a) Name valvular heart diseases. What are the Jones's criteria. What is Aschoff body? 2+2+1
b) What is emphysema? Give etiopathogenesis of pulmonary emphysema.
3. a) What is cirrhosis of liver? Name aetiology of cirrhosis of liver.
b) Name the ulcerative lesions of GIT. Mention most important differences between Crohn's disease and Ulcerative colitis.
4. a) Name glomerular diseases. State the pathogenesis of acute post streptococcal glomerulonephritis.
b) What is osteomyelitis? Give the etiopathogenesis of chronic osteomyelitis.
5. a) Classify testicular tumor. Give the differences between seminomatous and nonseminomatous tumors of testis.
b) A female of 55 years presented with irregular, hard, skin fixed breast lump. What is your provisional diagnosis? How would you proceed to investigate such a case? 2+3
6. a) What is CIN? Mention the important factors for carcinoma of cervix.
b) Classify Hodgkin lymphoma. What are the differences between Hodgkin and Non-Hodgkin lymphoma?
7. a) What is nephrotic syndrome? Mention the causes of nephrotic syndrome.

- b) A boy of 8 years presented with oedema, weakness, raised blood pressure and RBC cast in urine. What is your provisional diagnosis? How would you proceed to investigate this case?
8. a) Classify Germ cell tumors of ovary. What is endometriosis?
b) Mention the risk factors for carcinoma of breast. State the major and minor prognostic factor for carcinoma of breast.
9. Write short notes:
- a) Barret oesophagous.
b) Ewing's sarcoma.
- c) Gohn complex.
- d) Dermaoid cyst.
e) e) Polyp.

Batch: K-68

(Answer any eight questions, Question no. 9 is compulsory.)

1. a) What is atherosclerosis? Name the risk factors of ischemic heart disease. State the consequences and complications of myocardial infarction.
b) What is peptic ulcer? What are the common sites? Give morphology and important complications of peptic ulcer.
2. a) Name vulvular heart diseases. What are Jone's criteria? What is Aschoff body? 2+2+1
b) What is COAD? What is Emphysema? Give etio-pathogenesis of pulmonary emphysema.
3. a) What is cirrhosis of liver? Name etiology of cirrhosis of liver.
b) Classify tumor of stomach. Mention most important differences between Crohn's disease and ulcerative colitis.
4. a) Name glomerular diseases. State the pathogenesis of acute post streptococcal glomerulonephritis.
b) What is osteomyelitis? Give the etio-pathogenesis of chronic osteomyelitis.
5. a) Classify testicular tumor. Give the morphologic features of seminoma.

- b) A female of 55 years presented with irregular, hard, skin fixed breast lump. What is your provisional diagnosis? How would you proceed to investigate such a case? 2+3
6. a) What is CIN? Mention the important risk factors for carcinoma of cervix.
b) Classify Hodgkin lymphoma. What are the differences between the Hodgkin and Non-Hodgkin lymphoma?
7. a) What is nephrotic syndrome? Mention the causes of nephrotic syndrome.
b) A boy of 8 years presented with edema, weakness, raised blood pressure and RBC cast in urine. What is your provisional diagnosis? How would you proceed to investigate the disease?
8. a) Classify ovarian tumor. What is endometriosis?
b) Mention the risk factors for carcinoma of breast. State the major and minor prognostic factors for carcinoma of breast.
9. Write short notes:
a) Barrette esophagus.
b) Reed-Sternberg giant cell.
c) Gohn complex.
d) Teratoma.
e) Polyp.

Batch: K-67

Full Marks: 80

Time: 2 hour 40 minutes

(Answer any eight questions, Question no. 9 is compulsory.)

1. a) What is atherosclerosis? Give the pathogenesis of atherosclerosis. State the consequences and complications of myocardial infarction.
b) What is peptic ulcer? What are the common sites? Give morphology and important complications of peptic ulcer.

2. a) Define sub-acute infective endocarditis. Mention etio-pathogenesis and complications of infective endocarditis.
b) What is COAD? What is emphysema? Give etio-pathogenesis of pulmonary emphysema.
3. a) What is cirrhosis of liver? State pathogenesis of cirrhosis of liver.
b) Mention important predisposing factors for colorectal carcinoma. Mention most important differences between Crohn's disease and ulcerative colitis.
4. a) What is AGN? State the pathogenesis of acute post streptococcal glomerulonephritis. 1+4
b) What is osteomyelitis? Give the pathogenesis of chronic osteomyelitis.
5. a) Classify testicular tumor. Give the morphological features of seminoma.
b) A female of 55 years presented with irregular, hard, skin fixed breast lump. What is your provisional diagnosis? How would you proceed to investigate such a case? 2+3
6. a) What is CIN? Mention the important risk factors for carcinoma of cervix.
b) Classify the Hodgkin lymphoma. What are the differences between the Hodgkin and Non-Hodgkin lymphoma?
7. a) What is nephrotic syndrome? Mention the causes of nephrotic syndrome.
b) A boy of 8 years presented with edema, weakness, raised blood pressure and RBC cast in urine. What is your provisional diagnosis? How would you proceed to investigate this case?
8. a) Classify ovarian tumor. Mention important tumor marker for ovarian tumor.
b) Mention the risk factors for carcinoma of breast. State the major and minor prognostic factors for carcinoma of breast.
9. Write short notes (answer any five):
 - a) Barrette esophagus.
 - b) Reed-Sternberg giant cell.
 - c) Gohn complex.

- d) Teratoma.
- e) Burkitt lymphoma.
- f) Ewing's tumor.

Batch: K-66

Full Marks: 80

Time: 2 hour 40 minutes

(Answer any eight questions from each group, question no. 9 is compulsory.)

Group-A

1. Define peptic ulcer and mention its common sites and complications. How it differs from malignant ulcer morphologically?
2. What is Gohn Primary Complex? Mention the differences between primary and secondary pulmonary tuberculosis. Write significance of doing PCR in diagnosis of tuberculosis. 1+2+2
3. What are the causes of generalized lymphadenopathy? Give the differences between Hodgkin and Non-Hodgkin lymphoma. Mention the role of immunohistochemistry in Hodgkin lymphoma.
4. What are the causes of hyperthyroidism? Give pathogenesis of Grave's disease. Why eye ball is protruded in such case?
5. Classify bone tumors. Mention sites of osteosarcoma. Write the genes involved in osteosarcoma.
6. Classify breast tumors. Write the prognostic factors involved for outcome in carcinoma breast.
7. Name neoplastic and non-neoplastic intestinal polyps. Write different types of adenomas in colon. What are the features of malignant risks?
8. What are the ischemic heart diseases? Write sequential morphological changes occurring in MI. Why streptokinase enzyme is used in acute MI?

9. Male of 25 years with frequent passage of stool, sometimes with blood, anorexia, weight loss. Colonoscopy shows ulcerated lesion in intestine. Histopathology of lesion shows granuloma. What are the probable diagnosis?

Group-B

1. Classify testicular neoplasms. Compare and contrast seminomatous tumors with non-seminomatous group of neoplasms.
2. Give the immune mechanism of glomerular injury. Write pathogenesis of edema in nephrotic syndrome.
3. Name the body fluids examined in clinical practice. How pleural fluid helps us to diagnose a lung lesion with opacity?
4. Write down the renal function tests. Why Serum Creatinine level is more specific than Urea level as renal function test? When does urinary specific gravity become fixed irrespective of water intake?
5. Define anion gap. Mention causes of metabolic acidosis. A male of 50 years with pyloric stenosis suffering from repeated vomiting. What would be his acid base status? 1+2+2
6. What are causes of massive proteinuria? What is Bence-Jones protein? How can you detect in urine?
7. Write short notes on:
 - a) Alimentary glycosuria
 - b) Occult blood test
 - c) Hyper-glycaemia
8. What is OGTT? Write the WHO diagnostic criteria for diagnosis of Diabetes Mellitus. 2+3
9. A female of 40 years with severe upper abdominal pain followed by pale color stool and predominantly conjugated hyper-bilirubinaemia. What is the probable diagnosis? What would be the findings in enzyme analysis in this case?

Needs deep thinking

“We created man out of the extract of clay, then We made him into a drop of life-germ (zygote = spermatozoa + oocyte), then We placed it in a safe depository (uterus), then We made this drop into a clot (embryo), then We made the clot into a lump (somites), then We made the lump into bones (ossification), then We clothed the bones with flesh (muscle formation), and then We caused it to grow into another creation (fetus). Thus Most Blessed is Allah SWT, the Best of all those that create. Thereafter you are destined to die, and then on the Day of Resurrection you shall certainly be raised up.”

Al-Qur’an, Surah Mu’minun, Verses: 12-16

“O man! What has deceived you about your generous Lord (Allah SWT), Who created you, shaped you, and made you well-proportioned and set you in whatever form He pleased? No indeed; (the fact is that) you deny the Reckoning (Qiyamah), declaring it a lie; you do so the while there are watchers (angels) over you; noble scribes (Kiraman Katibeen), who know what you do. Surely the virtuous shall be in Bliss (Heaven), and the wicked shall be in the Blazing Fire (Hell).”

Al-Qur’an, Surah Infitar, Verses: 6-14

