COLLECTION OF UNIVERSITY QUESTION PAPER
1990-2015

BY
MITHRAAZ 2013 BATCH
KILPAUK MEDICAL COLLEGE
CHENNAI-10
MICROBIOLOGY PAPER I

GENERAL MICROBIOLOGY

ESSAY:
1. Fluorescent Microscopy
2. Structure of bacterial cell wall and antibiotics acting on it (2)
3. Structure of bacterial cell wall and physical requirement of growth (2)
4. Classify bacteria depends on shape, details about flagella
5. Growth requirement of bacteria describe their gaseous requirement
6. Sterilization by moist heat, autoclaving, disinfectants (5)
7. Sterilization methods, HEPA filter, protocol to sterilize major surgical operation theatre
8. Sterilization classification, chemical and microbial agents and their mode of action (2)
9. Methods of identification of bacteria
10. Mechanism of drug resistance, Gene transfer (5)
11. Define Ideal disinfectant, properties. enumerate Various disinfectant agents and their applications.
12. Immunofluorescence

SHORT NOTES:
1. Louis Posteur (3)
2. Robert Koch
3. Lord lister
4. Differential staining Methods
5. Bacterial cell wall
6. Bacterial flagella (4)
7. Bacterial capsule (7)
8. Filamentous appendages of bacteria
9. Bacterial spores (3)
10. Sporicidal chemicals
11. Spore bearing bacteria
12. Endospore
13. L forms of bacteria
14. Bacterial Growth
15. Bacterial growth curve (8)
16. Significant bacteriuria (2)
17. Dry heat sterilization (2)
18. Hot air oven (4)
19. Sterilization by chemical agents
20. Non sporing anaerobes (2)
21. Gaseous disinfectants (3)
22. Tyndallisation (4)
23. Antibiotics sensitivity test
24. Seitz filter
25. Sterilization by autoclave (4)
26. Bacterial Filters (3)
27. Sterilization by radiation (1)
28. Testing of disinfectants (2)
29. Enriched Media (2)
30. Selective Media (2)
31. Enrichment Media (2)
32. Differential Media
33. Transport Media (4)
34. Anaerobic Media
35. Anaerobic culture methods (7)
36. Fimbriae (2)
37. Plasmid (9)
38. Phenotypic Variations of bacteria
39. Mutation (3)
40. Bacterial drug resistance (3)
41. Transduction (4)
42. Transmissible drug resistance
43. Methods of transmission of Genetic Materials
   (2)
44. Conjugation (5)
45. Resistance Transfer Factor
46. Difference between mutational and transferable drug resistance
47. PCR (2)
48. Bacterial virulence
49. Moist heat sterilisation

### IMMUNITY

#### ESSAY:

1. Methods of transmission of infection
2. Innate immunity
3. Active and passive immunity (2)
4. Humoral immunity (2)
5. Cells involving immunity and their functions
6. Difference between the B & T cells,
   Development of T cells
7. Immunoglobulins (2)
8. Antigen antibody reactions, discuss agglutination tests with clinical examples (2)
9. Hypersensitivity reactions and Type – I and mechanism of anaphylaxis (6)
10. Autoimmunity (2)
11. Hypersensitivity reaction-type 4 and Schwartzman reaction
12. Define anaphylaxis, mediators and pathogenesis of anaphylaxis
SHORT NOTES:
1. Methods of transmission of infections
2. Nosocomial infections (3)
3. Carriers
4. Difference between the exotoxin and endotoxin
5. Exotoxins
6. Innate immunity (1)
7. Active immunity (1)
8. Passive immunity
9. Adjuvants (1)
10. IgG
11. IgM (3)
12. Ig A, (Secretary IgA) (3)
13. IgE (2)
14. Lymphokines
15. B lymphocyte (3)
16. T-lymphocyte (3)
17. T cell subsets
18. Cell mediated Immunity and T-Lymphocytes (2)
19. Antigen presenting cells
20. NK cells
21. Precipitation in gel
22. Compliment fixation test
23. Heterophile antigen
24. Applications of agglutination reactions
25. Passive agglutination (3)
26. Coombs test (3)
27. Western blot technique (1)
28. ELISA
29. Applications of ELISA (2)
30. Antibody sensitivity test
31. Fluorescent Antibody techniques (4)
32. Principles of monoclonal antibody Production, Monoclonal antibody, principle, techniques and uses (3)
33. Complement
34. Alternative pathway of complement
35. Biological function of complement
36. Anaphylaxis
37. Antigen antibody reactions and it's uses in microbiology
38. Serum sickness
39. Type – II Hypersensitivity
40. Type – III Hypersensitivity (2)
41. Type – IV (delayed) Hypersensitivity (3)
42. Schwartzman’s reaction
43. P.K (Prausnitz - Kustner) Reactions (2)
44. Auto antibody formation theories
45. Autoimmunity (3)
46. Mechanism of autoimmunization
47. GVH Reaction
48. Oncofetal antigen
49. Protocols for safe blood transfusion
50. Human leukocyte antigen
51. MHC
52. Abnormal Ag
53. Immunological tolerance
54. Hemolytic disease of the newborn/erythroblastosis fetalis
55. Herd immunity
56. Tumour antigens (2)
57. Immunosurveillance
58. Systemic autoimmunity
59. Theories of immune response
60. Agglutination reaction
61. Allograft rejection

SYSTEMIC BACTERIOLOGY ESSAYS

1. Classify streptococci, details about infective endocarditis
2. Causes of meningitis and its pathogenicity, lab diagnosis, role of BACTEC in rapid diagnosis of causative agents in bacterial meningitis
3. Bacteria causing meningitis, details about acute pyogenic meningitis caused by any one of them
4. Organism causing meningitis, lab diagnosis of meningococcal Meningitis (2), lab diagnosis of cerebrospinal fever
5. C. diptheriae, add note on its prophylaxis
6. B. anthracis (2)
7. Biological weapons, organism used as biological weapon, details about B. anthracis
8. Classify clostridia, details about clostridium tetani
9. Clostridium of medical importance, details about gas gangrene
10. Dysentery, causative agents, details about bacillary dysentery
11. Salmonella typhi-Pathogenesis, disease caused, lab diagnosis, classify enterbacteriaceae
12. Causative agents of enteric fever / fever, lab diagnosis of typhoid fever (3)
13. Bacteria causing prolonged fever, details about enteric fever (2)
14. PUO, Organism causing PUO, detail about typhoid fever (2) pathogenesis and lab diagnosis of acute pyogenic meningitis caused by any one of them.
15. Bacteria causing acute gastroenteritis, details about V. cholera, Lab diagnosis (6)
16. Organism causing diarrhoea, details about V. cholerae
17. Y. pestis, lab diagnosis of plague
18. Zoonosis, bacteria causing zoonotic diseases, details about leptospirosis
19. Zoonotic bacterial diseases, details about brucellosis
20. Classify Mycobacteria, details about pulmonary tuberculosis and lab diagnosis (6)
21. Classify Spirochetes, details about diagnosis of syphilis
22. Organism causing STDs, details about syphilis (4)
23. Bacteria causing UTI, details about lab diagnosis of UTI
24. Bordetella pertussis- Etiology, pathogenesis and lab diagnosis
25. Leptospirosis

SHORT NOTES:

1. Coagulase test
2. Staph. Aureus- special characteristics
3. MRSA (2)
4. Staph Virulence Factor (2)
5. Group D and B strep
6. Toxin and enzymes of Strep Pyogenes
7. Toxins of strep and virulence factors
8. Non suppurative complications of strep.pyogenes (2)
9. CAMP Test
10. Enterococci(2)
11. Neufeld quelleng Reaction (3)
12. Lab diagnosis of gonorrhoea
13. Lab diagnosis of bacterial meningitis
14. Gonorrhoea
15. Non gonococcal urethritis (2)
16. Lab diagnosis diphtheria (2)
17. Prophylaxis of diphtheria
18. Tests for toxin products of corynebacterium(2)
19. Elek’s Test(2)
20. Diptheroids
21. Malignant pustule (5)
22. Clostridium botulinum
23. Toxins of Clostridium welchii
24. Naglers reaction (2)
25. Gas Gangrene (2)
26. Tetanus prophylaxis and lab diagnosis(5)
27. Clostridium difficile
28. Lab Diagnosis of Anaerobic Infection
29. Bacterioids
30. General characteristics of entero bacteriaceae
31. Diarrhoegenic E.coli (3)
32. Traveller’s diarrhea
33. Relapsing fever(3)
34. Lab diagnosis Enteric carriers (2)
35. MDR S.typhi
36. Lab Diagnosis of enteric fever
37. Vi Antigen
38. Widal test (3)
39. Halophilic vibrio (3)
40. Eltor Vibrio (5)
41. Prophylaxis & epidemiology of cholera
42. Lab Diagnosis of plague
43. Satellitism (3)
44. X and V factor
45. Lab diagnosis of pulmonary TB (3)
46. Extra pulmonary TB
47. Mantoux test (2)
48. Atypical Mycobacteria (3)
49. VDRL Test (2)
50. Lab diagnosis leptospirosis & weils disease- lab diagnosis (3)
51. Standard test for syphilis
52. Lab diagnosis of secondary syphilis
53. Leptospirosis(3)
54. Non venereal treponemes
55. Lyme disease (2)
56. Weils disease
57. Lab Diagnosis of mycoplasma
58. Nocardia
59. Borrelia
60. Gardnerella Vaginalis (2)
61. H.Pylo (4)
62. Campylobacter
63. Rickettsiae (2)
64. Epidemic typhus
65. Neill Mooser (Tunica)Reaction
66. Scrub typhus (2)
67. Weil felix reaction (4)
68. Q fever
69. Trench Fever
70. Freis Test (2)
71. Inclusion conjuntivitis
72. TRIC agents (4)
73. Guinea pig uses in microbiology
74. UTI
75. Aseptic meningitis
76. Meningitis producing bacteria
77. Non specific urethritis
78. Bacterial vaccines
79. Distinguish between alpha haemolytic streptococci and pneumococci
80. ETEC
81. Listeria monocytogenes
82. Clostridium perfringens and toxins
83. Non suppurative streptococcal disease
84. Anaerobic vaginitis
85. Melioidosis
86. Non agglutinating vibrios
87. Legionellosis
88. D.B. Pnuemococcus and streptococcus viridians
89. D.B. Classical and eltor vibrio
90. Bacterial zoonotic disease
91. Mcfadyean’s reaction
92. Photochromogens and scotochromogens
93. Bacillary dysentery
94. PUO
95. RNTCP (1)
96. Types of diarrheagenic E.coli

**SHORT ANSWERS (2 Marks):**

1. Pigment producing bacteria
2. Diagram of IgM
3. Give four examples for enriched media
4. Name two zoonotic bacterial diseases
5. Tube coagulase test
6. Name four specific serologic tests for syphilis
7. Four differences between endotoxin and
8. Two liquid media to grow mycobacteria
9. Satellitism
10. Urease test
11. Negative staining
12. Give two examples for transport media
13. Arthus phenomenon
14. Nagler’s reaction
15. Cold sterilization
16. Two uses of HLA typing
17. Oxidase test
18. Name the three special species of brucella
19. Mantoux test
20. X and V factors

**MYCOLOGY**

**ESSAY:**

1. Mycotic mycetoma

**SHORT NOTES :**

1. Chlamydospores
2. Corn Meal agar
3. Dermatophytes (12)
4. Germ tube test
5. Candida albicans / candidiasis (5)
6. Madura mycosis
7. Mycetoma (5)
8. Mycotic Mycetoma (2)
9. Dimorphic Fungi (5)
10. Sporothrix Schenkii
11. Sporotrichosis
12. Rhinosporidiosis / Rhinosporidium seeberi (4)
13. Cryptococcus Neoformens / Cryptococcosis (6)
14. Sabourauds Medium
15. Lab diagnosis of cryptococcal meningitis
16. Histoplasma capsulatum
17. Aspergilloma (2)
18. Opportunistic fungi (5)
19. Mycotoxicosis / mycotoxins (5)
20. Cryptosporidium parvum (7)
21. Subcutaneous mycosis
22. Superficial mycosis (2)
23. Opportunistic fungal infections
24. Chromomycosis
25. Mycotic keratitis
26. Tinea versicolor
27. Coccidiomyosis

VIROLOGY

ESSAYS:
1. DNA viruses ? details about Herpes group of viruses (2)
2. Classify herpes viridae , details about herpes simplex virus (2)
3. Classify herpes viruses, detail about varicella Zoster Virus (2)
4. Viruses causing aseptic meningitis, details about polio myelitis virus-Pathogenesis,lab diagnosis,prophylaxis(3)
5. Classify picorna viruses, detail about polio virus (2)
6. Classify arbovirus details about Japanese encephalitis B (5)
7. Classify arboviruses, detail about dengue virus
8. Rabies (4)
9. Viruses affecting CNS, details about rabies
10. Classify rhabdoviruses, details about rabies virus
11. Name the virus affecting liver. Explain Hepatitis Viruses.Details about Hepatitis B.
12. Virus causing post transfusion hepatitis, detail about hepatitis B (2)
13. Classify HHV, details about it .(1)
14. Classify herpes virus, detail about EBV
15. AIDS
16. Important Microorganism during blood transmission, detail about HIV
17. Influenza virus-morphology, pathogenesis and lab diagnosis.
18. Viral vaccines
19. Various methods for isolation of viruses in lab
20. Immunoprohylaxis of viral disease

SHORT NOTES

1. Egg culture
2. Viral replication (2)
3. Tissue culture for viruses (4)
4. Cell culture (2)
5. Cytopathic effects(3)
6. MMR Vaccine (3)
7. Viral inclusion bodies (5)
8. Live viral vaccine
9. Interferon (4)
10. Varicella zoster (2)
11. Polio vaccine (3)
12. Prophylaxis of polio
13. Rabies vaccine
14. Oral polio vaccine (OPV)
15. Coxasackie B Virus
16. Coxasackie viruses
17. Sabin Vaccine
18. Difference between the orthomyxovirus and paramyxovirus
19. Influenza viruses-H1N1 infection, diagnosis and prophylaxis.
20. Antigenic Drift and shift (5)
21. Hemagglutination inhibition test
22. Chickungunya fever (2)
23. Japanese B encephalitis Virus (5)
24. Yellow fever
25. 17D Vaccine
26. Dengue fever (5)
27. Kyasanur forest disease (KFD) (2)
28. Rabies prophylaxis (6)
29. Viral vaccines
30. Lab Diagnosis of HBV
31. Lab diagnosis of Hepatitis B
32. Hepatitis E
33. Slow viruses / slow viral disease of man and prions (2)
34. Viral hemorrhagic fever (5)
35. Rota Virus (3)
36. Viral diarrhea (4)
37. Mechanism of Viral oncogenesis (2)
38. EBV (3)
39. Type C hepatitis
40. Lab diagnosis AIDS (2)
41. Methods of HIV transmission
42. Morphology and antigenic structure of HIV
43. Eijkman test
44. Viral gastroenteritis(2)
45. Latent viral infections
46. Congenital viral infection
47. Antiviral agents
48. Bacteriophage
49. Measles virus (2)
50. Viral hemagglutinin
51. Swine flu pandemic
52. Lab diagnosis of Hepatitis B and C
53. Herpes Zoster
54. Suckling mice
55. Poliomyelitis- lab diagnosis
56. Rhinovirus infections

PARASITOLOGY

ESSAYS:
1. Hemoflagellates and their morphology ?
details about leishmania donovani or Kala azar
morphology, life cycle, clinical features, lab diagnosis (4)
2. Life cycle of plasmodium falciparum , morphologcial differences between the different plasmodia
3. Parasitic zoonotic diseases, details about toxoplasmosis
4. Classify cestodes, details taenia solium , lab diagnosis of tap worm infection (3)
5. Classify cestodes, details about Echinococcus granulosus (5
6. Intestinal nematodes ? details about ankylostoma duodenale, lab diagnosis of hook worm infection and enumerate parasites causing anaemia (3)
7. Important protozoal parasites of man? Details about malignant tertian malaria, complications and lab diagnosis
8. Hemoparasites? details about Plasmodium falciparum (4)
9. Classify sporozoa, life cycle of Plasmodium falciparum, differentiate it from others, lab diagnosis of malignant tertian malaria
10. Intestinal parasites of man? details about enterobiasis
11. Viviparous nematodes? life cycle, lab diagnosis of any one, prevention and control of bancroftian filariasis
12. Classify nematodes, details about filariasis (2)
13. Tissue or somatic nematodes? details about wuchereria bancrofti (3)
14. Ascaris lumbricoides- Life cycle, pathogenesis, lab diagnosis and classify nematodes (3)
15. Life cycle of Dracunculus medinensis

SHORT NOTES:
14. Primary amoebic meningioencephalitis (6)
15. Free living amoebae (4)
16. Life cycle of Entamoeba histolytica (2)
17. Lab diagnosis intestinal amoebiasis
18. Trichomonas vaginalis (4)
19. Trichomonas
20. Lab diagnosis and morphology of KALA AZAR (3)
21. Pernicious malaria
22. Exoerythrocytic cycle
23. Exoerythrocytic schizogony
24. Erythrocytic stage of P.vivax
25. Lab diagnosis of malaria
26. P.falciparum
27. Black water fever
28. Toxoplasma gondii or toxoplasmosis (2)
29. Redia and cercaria
30. Fasciola hepatica
31. Lung fluke (2)
32. Larval forms of cestodes
33. Cysticercus cellulosae (5)
34. Hydatid cyst (2)
35. Pathogenisis and lab diagnosis of hydatid diseases
36. Dwarf tap worm
37. Pathogenisis of strongyloides stercoralis
38. Trichinella spiralis (2)
39. Life cycle of A. duodenale
40. Gamatocytes of P.falciparum
41. Thread Worm
42. Microfilaria of W.bancrofti
43. Microfilaria (9)
44. Onchocerca valvulus
45. Cyclops (2)
46. Larva migrans (5)
47. Morphology of pathogenic intestinal protozoans
48. Bile stained eggs (2)
49. Life cycle of balantidium coli
50. Examination of feces for parasitic infection
51. Life cycle of Taenia solium
52. Extra intestinal amoebiasis (3)
53. Complication produced by P.falciparum
54. Casoni’s test
55. Nematodes - classification according to habitat of adult worm.
56. Life cycle of Ascaris lumbricoides
57. Lab diagnosis of Malaria
58. Cysticercosis
59. Stool examination - concentration methods
60. Filariasis - lab diagnosis
61. Pneumocystic jiroveci
62. Viviparous parasites (2)
63. Role of cyclops in parasitic disease
64. P. latum and its larval forms

APPLIED MICROBIOLOGY

ESSAY
1. Significant bacteriuria (3)
2. Water born diseases
3. Nosocomial infections (3)
4. Laboratory assessment of portability of drinking water
5. Concentration methods of fecal examination
6. Bacteriological examination of milk (2)
7. Bio-safety in microbiology lab
8. Universal precautions
9. Milk born diseases and prevention
10. Presumptive coliform count
11. Emerging and Reemerging infections

SHORT ANSWERS :
1. Name four DNA viruses.
2. Draw and label a bacteriophage. (2)
3. Define definitive host. Give two examples.
4. Otomycosis. (2)
5. Trichomonas Vaginalis.
6. Mention four species of candida.
7. Complications of ascariasis (roundworm infestation).
8. Define an intermediate host.
9. Mention three antifungal agents.
10. Complication of dengue virus.
11. Vaccines against poliomyelitis
12. Four arbovirus infection prevalent in India
13. Delta Hepatitis agents
14. Draw the ovum of Eterobius vermicularis
15. Two parasites infecting eye
16. Name two parasites causing
   a. Anemia
   b. Visual larva migrans
17. chlamydospore
18. Name two fungi causing occlulomycosis
19. Enumerate four dermatophytes
20. Four organism causing mycetoma

SHORT NOTES:
1. UTI – lab diagnosis (2)
2. Antibiogram
3. Universal precautions
4. PCR
5. Role of vectors in transmission of infectious agents
6. Normal microbial flora
7. Significant bacteriuria (2)
PATHOLOGY

1. CELLULAR ADAPTATION, CELL INJURY, AND CELL DEATH

ESSAY
1. Necrosis, types and examples, fate of necrosed area, difference between apoptosis and necrosis (4)
2. Types of degeneration, pathology of organ affected by fatty changes, add a note on fat stains
3. Apoptosis

SHORT NOTES:
1. Metastatic calcification (3)
2. Necrosis (2)
3. Phagocytosis (5)
4. Gangrenous necrosis
5. Difference between the dysplastic and metastatic calcification
6. Free radical cell injury (5)
7. Dystrophic calcification and examples (2)
8. Fat necrosis
9. Cellular swelling
10. Pathological calcification (2)
11. Radiation injury
12. Fatty changes in liver (2)
13. Fatty changes
14. Fat stains
15. Apoptosis
16. Classify pigments. Write about lipofuscin
17. Caseous necrosis
18. Growth factors

2. ACUTE AND CHRONIC INFLAMMATION

ESSAY:
1. Chemical mediators of acute inflammation and their actions (4)
2. Define inflammation. Major events of acute inflammation and note on defective leucocytic function.
3. Vascular and cellular changes in inflammation

SHORTNOTES:
1. Chemical mediators of inflammation (5)
2. Chemotaxis (2)
3. Granuloma (3)
4. Leukotrienes
5. Adhesion molecules
6. Leucocyte endothelium adhesion molecules
7. Granulomatous inflammation (2)
8. Fungal granulomas
9. Pathogenesis of TB granuloma
10. Arachidonic metabolites in inflammation
11. Outcomes of acute inflammation
12. Defects in glucoside function
13. Vascular events in acute inflammation
14. Chemokines

3. TISSUE RENEWAL AND REPAIR

ESSAY:
1. Define repair, repair of fracture of bone, factor influencing healing
2. Define repair, process of repair, factors
influencing repair (2)
3. Wound healing second intention, difference
between the first and second intention, factor
influencing it

SHORT NOTES:
1. Healing by second intention
2. Healing of simple bone fractures (2)
3. Factors influencing wound healing (3)

4. HEMODYNAMIC DISORDERS

ESSAY:
1. Thrombosis (7)
2. Define, classify, pathogenesis & morphology
   of septic shock (7)
3. Edema, etiopathogenesis, pathophysiology of
generalized edema, clinical significance of cerebral
   and pulmonary edema (2)
4. Edema, classification, etiopathogenesis of
   various types of edema and examples (2)

SHORT NOTES:
1. Fat embolism (2)
2. Edema pathogenesis
3. Difference between transudate and exudates
   (4)
4. Difference between thrombus and blood clot
5. Gross and microscopic feature of infarct (3)
6. Cardiac edema (6)
7. Embolism (2)
8. Virchow’s triad (2)
9. Thrombogenesis
10. Amniotic fluid embolism (2)
11. Air embolism (2)
12. Renal edema pathogenesis
13. Pathology of septic shock (3)
14. Liquid embolism
15. Thromboembolism (2)
16. Types of embolism (2)
17. Write on caisson disease

5. GENETIC DISORDERS:

SHORT NOTES:
1. Turner’s syndrome (7)
2. Klinefelter’s syndrome (6)
3. Sex chromatin (2)
4. Gaucher’s disease (3)
5. G6PD deficiency anemia
6. Hypercholestrolemia (2)
7. X linked diseases
8. Down syndrome (2)
9. Niemann pick disease (2)
10. Trisomy 21
11. Mitochondrial inheritance
12. Etiopathogenesis of cystic fibrosis
13. Hybridisation technique

6. DISEASES OF IMMUNITY

ESSAY:
1. Classify amyloidosis, details about it (1)
2. Classify primary immunodeficiency syndrome,
details about
3. Define auto, iso, allo, xeno grafts, factors influencing allograft rejection, types and mechanism of allo graft rejection
4. AIDS

SHORT NOTES:
1. Cell mediated hypersensitivity
2. Cytokines (2)
3. AIDS and opportunistic infections
4. Amyloid stains
5. Type II hypersensitivity (3)
6. Morphology of transplant rejection
7. NK cells
8. HLA
9. Antinuclear antibodies
10. T Lymphocytes
11. Primary amyloidosis
12. Pathology of spleen in amyloidosis (2)
13. Fibronectin
14. Type III hypersensitivity reaction
15. LE phenomenon (2)
16. Amyloidosis- pathogenesis (2)
17. Mechanism of autoimmune disease
18. Anaphyactic reaction
19. Type 1 hypersensitivity
20. Type 2 hypersensitivity
21. Transplant rejection

7. NEOPLASIA

ESSAY:
1. Classify neoplasia, difference between benign and malignant tumor, mode of spread of malignant tumor (4)
2. Neoplasm viral and chemical carcinogens (4)
3. Metastasis, different pathway of spread, details about anyone (2)
4. Mention oncogenic viruses. Describe oncogenesis of HPV
5. Various carcinogenic agents. Classify chemical carcinogens and steps involved in it
6. Write in detail about carcinogenesis and its physical, chemical, biological and molecular basis. Write about oncogenes (1)

SHORT NOTES:
1. Carcinoma in situ (3)
2. Chemical carcinogen (2)
3. Pre cancerous lesions (2)
4. Difference between benign and malignant tumors (2)
5. Dysplasia
6. Oncogenic RNA virus
7. Lab diagnosis of cancer (3)
8. Metastasis(2)
9. FNAC (3)
10. Paraneoplastic syndrome (3)
11. Tumor markers (2)
12. Metaplasia (2)
13. Growth factors (3)
14. Transcoelomic spread of neoplasm
15. Tumor suppressor genes (2)
16. Retinoblastoma
17. Hamartoma (2)
18. Tumor antigens
19. Grading and staging of tumor (2)
20. Rhabdomyosarcoma
21. Teratoma (4)
22. Molecular basis of cancer
23. Differentiation and anaplasia
24. Oncogenic EBV
25. p53

9. ENVIRONMENTAL AND NUTRITIONAL PATHOLOGY

SHORT NOTES:
1. Vit D deficiency
2. Rickets (5)
3. Hemolytic diseases of newborn (5)
4. Vitamin A deficiency (3)
5. Kwashiorkor (2)
6. Silicosis

10. DISEASE OF INFANCY AND CHILDHOOD

SHORT NOTES:
1. Childhood tumors
2. Erythroblastosis fetalis
3. Wilm’s tumour
4. Neonatal respiratory distress syndrome

13. RED BLOOD CELL AND BLEEDING DISORDERS

ESSAY:
1. Classify hemolytic anemia, details about sickle cell disease (4)
2. Classify bleeding disorders and its lab investigations
3. Classify hemolytic anemia, compare etiopathogenesis and lab findings of Thalassemia and sickle cell anemia

8. INFECTIOUS DISEASES

ESSAY:
1. Define Gangrene, types, details about gas gangrene
2. TB
3. Typhoid ulcer

SHORT NOTES:
1. Lepromatous leprosy
2. Hydatid cyst
3. Histological differences between TB leprosy and Lepromatous leprosy
4. Actinomycosis (2)
5. Rhinosporidiosis (3)
6. Primary complex (6)
7. Morphology and evolution of tubercle
8. Miliary TB (2)
9. Primary Atypical pneumonia
10. Gangrene – pathogenesis (2)
11. Difference between the dry and wet gangrene
12. Leprosy
13. Mycetoma
14. Tertiary syphilis
15. Immunology of leprosy
16. Viral haemorrhagic fever
17. Morphology of leprosy
18. Morphology of Pulmonary tuberculosis
4. Classify anemia, details about iron deficiency anemia (5)

5. How will you interpret bone marrow, bone marrow findings of megaloblastic anemia (3)

6. Classify hemorrhagic disorder, details about hemophilia (2)

7. Classify thrombocytopenia, etiopathogenesis, details about idiopathic thrombocytopenic purpura

**SHORT NOTES:**

1. Bone marrow changes in microcytic anemia
2. PCV estimation and its significance (2)
3. Von Willebrand’s disease (6)
4. Microcytic hypochromic anemia
5. Hemochromatosis (4)
6. Glanzmann’s disease
7. Indication of bone marrow aspiration
8. Thrombocytopenia (2)
9. Aplastic anemia (3)
10. Prothrombin time
11. Hemosiderin deposits in the diseases
12. Peripheral blood smear and bone marrow changes in Vitamin B12 deficiency (Megaloblastic anemia ) (5)
13. Hematocrit (4)
14. Transfusion reaction (2)
15. Reticulocyte (2)
16. Bleeding time
17. Coomb’s test
18. Complications of blood transfusion
19. ESR (4)

20. Osmotic fragility test
21. Idiopathic thrombocytopenic purpura (8)
22. DIC lab diagnosis (3)
23. Evidence of haemolytic anemia
24. Sickle cell pathogenesis
25. Anemia of chronic disease
26. Hemophilia A
27. Chronic immune thrombocytopenic purpura
28. Polycythemic vera

**14. DISEASE OF WHITE BLOOD CELLS**

**ESSAY:**

1. Classify leukemia, bone marrow and peripheral blood smear findings of CML (7)
2. Classify leukemia, details about ALL
3. Classify leukemia, details about AML (2)
4. Classify hodgkin’s disease and explain its pathogenesis and morphology
5. Classify lymphoma, details about hogkin’s lymphoma (5)

**SHORT NOTES:**

1. Morphological disorder of leucocytes
2. Classify AML
3. Blood pictures on CML
4. Agranulocytosis (2)
5. Lab diagnosis multiple myeloma
6. Chloroma
7. AML and molecular pathogenesis (2)
8. Rye’s classification and its value
9. Leukemoid reaction (7)
10. Classify acute leukemia
11. Pancytopenia in peripheral blood smear
12. Cytochemistry of acute leukemia
13. Bence Jones proteins (2)
14. Reed-Sternberg Giant Cells
15. Nodular sclerosis Hodgkin lymphoma
16. Myelodysplastic syndrome
17. Classify Hodgkin lymphoma (5)
18. Lab investigation of plasma cell myeloma
19. Burkitt lymphoma (2)
20. Fab classification of leukemia
21. Eosinophilia
22. Primary myelofibrosis (1)
23. Peripheral smear and bone marrow finding in multiple myeloma and etiology

OTHERS:
1. Automatic tissue processor (2)
2. Proteins in urine
3. Pathology of fracture healing (2)
4. Cystic fibrosis

SHORT ANSWERS:
1. What are different types of necrosis?
2. Mention 4 factors influencing wound healing
3. Fate of thrombi
4. Enumerate 4 types of chromosomal rearrangements
5. Mention any 4 childhood malignancies (2)
6. What are red cell indices
7. Blood picture in magaloblastic anemia
8. Mention important investigation necessary for diagnosis of hemophilia
9. Define leukemia
10. Microscopic picture of acute appendicitis
11. Mast cells
12. Mention 4 nuclear changes in necrosis
13. Significance of casts in urine
14. Anti-Coagulants
15. Mention 4 indications of bone marrow aspiration
16. Reticulocyte count
17. Henoch – Schonlein purpura
18. Gross appearance of Mycetoma foot

CASES:
1. CASE A farmer 45 year old with severe breathlessness O/E severe pallor nails, mucus membrane. Diagnosis? Etiology? Lab diagnosis?
2. 40 year old male H/O chronic fatigue, weight loss for 6 months O/E pallor, marked splenomagaly +, Find out the characteristic peripheral blood finding and course of disease.
   Lab reports Hb 10 gms%
   TC : 215000 cell per cumm
   Platelet 4 lakhs per cumm
   Diagnosis? common genetic abnormality?
   Blood and bone marrow findings? prognosis?
3. A 70 yr old woman admitted with anemia and pathological fracture of the humerus had on ESR of 120mm in one hour. Her peripheral smear showed increased rouleax formation. Xray of skull shows multiple punched out osteolytic lesions.
   a. diagnosis, etiopathogenesis
   b. bone marrow changes
   c. laboratory investigations
4. A 40 yr male with normocytic normochromic anemia, pathological fractures of femur and proteinuria. X-ray revealed punched out lesions in calvarium and peripheral smear shows rouleaux formation
a. diagnosis
b. pathogenesis, morphology and clinical feature of above said disorders

5. A 23 yr female presented with oral ulcer, malar rash, photo sensitivity and non-erosive arthritis involving both knees. Laboratory investigations show persistent proteinuria and leucopenia
a. diagnosis
b. pathogenesis and morphology of kidney

6. A 40 yr old male presented with h/o fever, vomiting, diarrhoea. Patient had a temperature of 103 F. Weak rapid pulse, hypotension, tachypnoea. Cold, clammy, cyanotic skin. Blood culture- gram negative bacterial infection positive.
   a. diagnosis
   b. explain pathogenesis and morphology

7. (A) A 12 yr old boy weighing 70 kgs doesn’t play any outdoor games and is always in front of his playstation with snacks beside him. What is he having? What are the methods to assess it.
   (B) What is etiopathogenesis. Enumerate the complications
PATHOLOGY PAPER II

11. BLOOD VESSELS

ESSAY:
1. Atherosclerosis (3)
2. Atheroma, risk factors for atherosclerosis, role of lipid and endothelial injury, and its pathogenesis (2)

SHORT NOTES:
1. Buerger’s disease (TAO)
2. Dissecting aneurysm (4)
3. Heart vegetation
4. Atheromatous plaque
5. HUS
6. Hamartoma
7. Anuerysm
8. Consequence of atherosclerotic disease

12. THE HEART

ESSAY:
1. MI (2)
2. Infective endocarditis / bacterial endocarditis (2)
3. Define Rheumatic fever, details about RHD (3)

SHORT NOTES:
1. Rheumatic cardiac lesion
2. Lab diagnosis of acute MI (2)
3. Hypertensive heart disease
4. Infective endocarditis
5. Cardiac lesions in RHD
6. Fallot’s tetrology
7. Aschoff’s bodies
8. Enzymes in MI
9. Frozen section
10. Dilated Cardiomyopathy (2)
11. Vegetation of heart
12. Infarct morphology

15. THE LUNG

ESSAY:
1. Bronchogenic carcinoma – etiopathogenesis and morphology of various subtypes (2)
2. Classify bronchogenic carcinoma, details about small cell carcinoma
3. Bronchial asthma (2)
4. Define and classify emphysema, details about panacinar emphysema
5. Emphysema (2)
6. Lobar pneumonia

SHORT NOTES:
1. Oat cell carcinoma (3)
2. Bronchiectasis (7)
3. Good pasteur’s syndrome
4. Carcinoid tumors of lung (2)
5. Silicosis (2)
6. Bronchoalveolar carcinoma
7. Mesothelioma (2)
8. Etiopathology of CA lung
9. Small cell carcinoma lung (2)
10. Pneumoconiosis (4)
11. Asbestosis
12. ARDS (2)
13. Pathology of bronchial asthma
14. Primary Atypical pneumonia
15. Ghon’s complex
16. Viral pneumonia
17. Opportunistic lung infection in AIDS
18. Primary pulmonary TB
19. Lobar pneumonia
20. Emphysema

16. HEAD AND NECK

ESSAY:
1. Classify tumors of salivary glands, details about salivary adenomas

SHORT NOTES:
1. Ameloblastoma
2. Pleomorphic adenoma of salivary gland and malignant salivary gland tumors (5)
3. Warthin tumor
4. Adamantinoma jaw
5. Paraganglioma

17. GIT

ESSAY:
1. Classify cirrhosis details about portal cirrhosis
2. Classify cirrhosis of liver, details about alcoholic cirrhosis / any one of the most common type (6)
3. PM appearance of cirrhosis of liver
4. Tumours of liver- classification, etiopathology and diagnosis

**SHORT NOTES:**
1. Cholelithiasis (7)
2. Investigation of viral hepatitis (2)
3. Grey hepatitization
4. Chronic acute hepatitis (4)
5. Etioclassification of liver cirrhosis (2)
6. Morphology of alcoholic liver disease (5)
7. Chronic persistent hepatitis (3)
8. LDL
9. Gall stones (2)
10. Lab diagnosis of hepatitis (2)
11. CVC liver (2)
12. Hepatocellular carcinoma and its etiology
13. Hepatitis B
14. Hemochromatosis
15. Cirrhosis
16. Metabolic cirrhosis
17. Benign neoplasm of liver
18. Chronic acute viral hepatitis
19. Lannec’s cirrhosis
20. Cholangiocarcinoma

**19. THE PANCREAS**

**SHORT NOTES:**
1. Acute pancreatitis and morphology (2)
2. Chronic calcific pancreatitis

**20. THE KIDNEY**

**ESSAY:**
1. Classify acute glomerular nephritis, details about acute post streptococcal glomerulonephritis (2)
2. Chronic pyleonephritis (2)
3. Mechanism of glomerular injury in primary glomerular diseases
4. Nephritic syndrome

**SHORT NOTES:**
1. Urinary casts (3)
2. Wilm’s tumor (7)
3. Hypernephroma
4. Myeloma kidney
5. Contracted granular kidney (2)
6. Urinary findings of acute glomerulonephritis
7. Acute pyelonephritis
8. Polycystic kidney disease
9. Pathology of carcinoma kidney
10. Pheochromocytoma (2)
11. Hemolytic uremic syndrome
12. Nephroblastoma
13. Transitional cell carcinoma bladder
14. Crescentic glomerulonephritis (2)
15. Renal cell carcinoma (2)
16. Immune complex nephritis
17. Renal stones (2)
18. Acute tubular necrosis
19. Minimal change nephropathy
21. LOWER URINARY TRACT AND
MALE GENITAL SYSTEM

SHORT NOTES:
1. Seminoma (9)
2. Yolk sac tumor
3. Teratoma (2)
4. BPH (3)
5. Cryptorchidism

22. THE FEMALE GENITAL TRACT

ESSAY:
1. Cervical cancer (4)
2. Classify ovarian tumor, details about germ cell ovarian tumor (2)
3. Mucinous cystadenoma of ovary
4. Classify ovarian tumour. Detail about serous tumour

SHORT NOTES:
1. Endometriosis (3)
2. Uterus leiomyomas
3. Choriocarcinoma
4. Cervical carcinoma etiopathology (4)
5. CIN (5)
6. Granulosa cell tumor ovary (2)
7. Benign cystic teratoma ovary
8. Hydatiform mole / vesicular mole (6)
9. Dysgerminoma
10. Surface epithelial tumour of ovary
11. Malignant tumour of endometrium. Note on malignant mixed mullerian tumour
12. Brunner’s tumour
13. Kruhenberg tumour

23. THE BREAST

ESSAY:
1. Breast cancer (2)
2. Classify CA breast, details about pagets disease of breast

SHORT NOTES:
1. Etiology of CA breast
2. Paget diseases of breast (2)
3. Cystosarcoma phyllodes (4)
4. Fibrocystic disease of breast (2)
5. Phyllodes tumor breast and Mention the stromal tumours (3)
6. Gynaeecomastia (2)
7. Prognostic and predictive factors of carcinoma breast
8. Fibroadenoma

24. THE ENDOCRINE SYSTEM

ESSAY:
1. Etiopathogenesis of diabetes and complication
2. Neoplasm of thyroid. Explain in detail about papillary CA of thyroid

SHORT NOTES:
1. Hashimoto’s thyroid (11)
2. Medullary carcinoma thyroid (2)
3. Lab diagnosis DM
4. Morphology of kidney in Diabetic nephropathy (4)
5. Pancreatic changes in DM
6. Immune thyroiditis
7. IDDM
8. MEN syndrome
9. Grave’s disease
10. Multi nodular goiter
11. Diabetic nephropathy and renal changes in DM (3)
12. Cretinism(2)
13. Nodular goiter
14. Papillary carcinoma thyroid (2)
15. Hyperparathyroidism
16. Pheochromocytoma (3)
17. Complication of DM
18. Thyroiditis
19. Thyroglossal duct cyst

25. THE SKIN

SHORT NOTES:
1. Malignant melanoma (3)
2. Precancerous lesion skin (2)
3. Intradermal naevus
4. Exfoliative cytology
5. Basal cell carcinoma (4)
6. Kaposi sarcoma
7. Bowen’s disease of skin
8. Granular cell tumor

26. BONES, JOINTS, AND SOFT TISSUE TUMORS

ESSAY:
1. Classify tumor bone, details about osteogenic tumor
2. Osteosclerosis
3. Classify tumor CNS, details about gliomas

SHORT NOTES:
1. Osteoclastoma (7)
2. Paget disease of bone (2)
3. Chronic osteomyelitis
4. Giant cell tumor bone (4)
5. Osteogenic sarcoma pathology (5)
6. TB osteomyelitis (2)
7. Osteomyelitis (2)
8. Chondroblastoma
9. Ewing’s sarcoma (5)
10. Pannus
11. Gout
12. Cartilage forming tumours
13. Pyogenic osteomyelitis
14. Liposarcoma
15. Osteochondroma
16. Rhabdomyosarcoma

28. THE CENTRAL NERVOUS SYSTEM

SHORT NOTES:
1. TB meningitis
2. Brain tumors classification
3. CSF in TB meningitis / pyogenic meningitis (6)
4. Astrocytoma (4)
5. Neuro fibroma
6. Glioblastoma
7. Meningioma (9)
8. Glioblastoma multiformae (2)
9. Examination of CSF
10. Medulloblastoma
11. Prion disease
CASES:

1. A 10 yr old child is admitted with puffiness of face, oilguria, smoky urine, Diagnosis?
   Etiopathogenesis & morphology of target organ? clinical picture and lab diagnosis.

2. A 15 year old boy presents with huge swelling around knee with stretched out shiny skin, X-ray shows bony mass in the lower third of femur with soft tissue involvement and sunray appearance. Detail the lesion.

3. A 52 year old male was admitted with persistent abdominal pain, gastric distention and vomiting, he had H/O loss of appetite and loss of weight and hematemesis, Diagnosis and etiopathogenesis?

4. A 74 year old male presented with altered bowel habits, tarry stool, loss of weight, fatigue, weakness of six month duration after an endoscopic biopsy colon left hemicolectomy was done. Diagnosis?
   etiopathogenesis, morphology of target organ.

5. 40 year old female present with post coital bleeding, foul smelling discharge PV, she lost 15 % weight in two months with loss appetite. Diagnosis? Etiopathogenesis & morphology of target organ(2)

6. 20 year old female, H/O pain, swelling, tenderness over the lower end of right femur for the past three month, suddenly developed breathlessness, during her treatment and died, clinical autopsy conducted. Diagnosis?
   Two investigation to arrive at diagnosis.
   Etiopathogenesis, gross microscopy of lesion, two autopsy confirmed lesion leading to death. (2)

7. A 30yr old man with history painless cervical and axillary lymphadenopathy with h/o loss of weight, fever and night sweating and was found to have cutaneous allergy. No hepatosplenomegal.
   a. diagnosis
   b. manifestation of condition
   c. morphology of any 2 types

8. A 50 yr old man collapses suddenly while climbing the stairs with severe chest pain and profuse sweating.
   a. clinical diagnosis
   b. etiopathogenesis
   c. complications
   d. risk factors.
   e. biochemical test and their role in diagnosis

9. A 12 yr old boy presented with fever oliguria and highly colored urine. He had sore throat 3 weeks back.
   a. diagnosis
   b. etiopathogenesis
   c. relevant investigations

10. A 13 yr old female with massive edema, puffiness of face, decreased urine.
a. diagnosis
b. probable renal pathology
c. write in detail about minimal change disease

11. A 44 yr old nullparous women presented with hard, fixed non tender mass of about 6*4*4 cms in the upper outer quadrant of right breast with axillary lymphadenopathy.

a. diagnosis
b. detail the prognostic and predictive factors of your diagnosis

12. A 8 yr old boy with old scars of scabies skin lesion with history of hematuria, oliguria and puffiness of face.

a. diagnosis
b. etiopathogenesis and lab diagnosis

13. A 50 yr old male painless firm testicular swelling with loss of testicular sensation.

a. diagnosis
b. classification and etiopathogenesis

14. A 47 yr male patient with acute onset of dyspnoea, profuse sweating, chest pain radiating to left shoulder.

Lab investigations: elevated troponin T
a. diagnosis
b. pathogenesis
c. morphology

15. A 60 yr old male patient with anemia, loss of weight, persistent abdominal pain, distention and vomiting, upper GI endoscopy and biopsy done.

a. diagnosis
b. etiopathogenesis and morphology

16. A 65 yr male patient presented with bleeding PR.

Colonoscopy- rectosigmoid hard mass

a. Diagnosis
b. Discuss various neoplasm arising in rectosigmoid and write in detail about morphological types and staging systems

SHORT ANSWERS:

1. What are the different stages of Pneumonia?
2. Enumerate 4 different types of Emphysema
3. 2 differences between crohn’s disease & Ulcerative colitis
4. Gross differences between benign and malignant ulcers of stomach
5. Enumerate 4 different types of renal stones
6. Microscopic feature of leiomyoma
7. Mention 2 important microscopic features of Hashimoto’s thyroiditis
8. Enumerate 2 radiological features of osteosarcoma
9. Features of diabetic retinopathy
10. Different types of giant cells
11. Exfoliative cytology
12. mention four pre-malignant – lesions
13. Gohn’s lesion (2)
14. Cerebrospinal fluid finding in pyogenic meningitis
15. Mention four opportunistic infections in AIDS
16. Cryptorchidism
17. Analgesic nephropathy
18. Mention four germ cell tumors
19. Condyloma acuminatum (warts)
20. 4 Pathological effects of gall stones.

**SKELETAL MUSCLE SYSTEM:**

1. Ducheme muscular dystrophy

**OTHERS:**

1. Working formation of non-hodgkin’s lymohoma
2. Gaucher’s disease
3. Neruoblastoma
4. Carcinoid syndrome
5. Retinoblastoma
PHARMACOLOGY:

I. GENERAL PHARMACOLOGICAL PRINCIPLES:

ESSAYS:

1. Various routes of drug administration.
   Explain each route – Examples, advantages & disadvantages

2. Biotransformation - Define, explain phase 1 and 2 with examples, Importance of enzyme induction and inhibition

3. Define drug, dose, factors modifying drug action. Write about pharmacogenetics (1)

SHORT NOTES:

1. First Pass Metabolism or presystemic elimination (3)
2. Biotransformation (4)
3. Newer drug delivery system (2)
4. Biological half-life (3)
5. Chemoprophylaxis
6. Post marketing surveillance during newer drug development
7. Prolongation of drug action
8. Therapeutic Index (2)
9. Tolerance (2)
10. Sublingual administration of drugs (2)
11. Drug receptor
12. Iatrogenicity or Drug induced diseases (2)
13. Transdermal application of drugs
14. Pharmacokinetics (3)
15. Teratogenicity
16. Prodrug
17. Drug Antagonism
18. Bioavailability
19. Local routes
20. Drugs to be avoided in elderly and safer alternatives
22. Essential drugs
23. Microsomal enzyme inducers
24. Fixed dose ratio combination
25. Specialized active transport mechanism
26. Pharmacovigilance

2. AUTONOMIC NERVOUS SYSTEM:

ESSAYS:

1. Catecholamine? Sympathomimetic agents – uses, side effect, dose of adrenaline (4)
2. Anticholinergic drugs - uses, adverse effects and contraindications (4)
3. Beta adrenergic receptor blockers – uses adverse effects and contraindication of non-cardioselective beta blockers (4)
4. Anticholinesterase - classify, mechanism of action, indicators of reversible ACE, management of acute OPC poisoning

SHORT NOTES:
1. Timolol
2. uses of Beta adrenergic blockers
3. Pentazocine (3)
4. Beta Stimulants (agonists)
5. irreversible ChE inhibitors
6. Drugs for Glaucoma (4)
7. Atenolol
8. Dopamine (2)
9. Advantages of metaprolol
10. Atropine – uses, side effects (2)
11. Adverse effects of ß – blockers
12. Drugs in anaphylactic shock
13. Cardioselective ß – blockers
14. One anticholinergic used in eye and smooth muscle – uses & adverse effects
15. Extra cardiac uses of beta blockers
16. Alpha blockers- classify and uses
17. OPC poisoning Rx
18. Mydriatics
19. Uroselective alpha blockers
20. Belladona poisoning Rx
21. Carvedilol
22. Ipratropium bromide
23. Dicyclomine

3. AUTACOIDS

ESSAYS:
1. Analgesics (non-narcotic) – Mechanism, uses of salicylates (4)
2. NSAIDs – Actions, uses & Adverse effects of aspirin (4)

3. Classify H1 receptor blockers, mast cell stabilisers, pharmacology, H2 receptor blockers, uses

SHORT NOTES:
1. 2O generation antihistamines
2. d – penicillamine (3)
3. Non-sedative antihistamines (4)
4. Any 3 NSAIDs – Pharmacological action, uses & adverse effects
5. H1 receptor blockers – non sedative
6. 5-HT antagonists (3)
7. Allopurinol (2)
8. Ketanserin
9. Uricosuric Drugs (2)
10. Prostaglandins & its uses (2)
11. Drug treatment migraine (3)
12. Trigeminal neuralgia
13. COX – 2 inhibitors (2)
14. Agranulocytosis
15. Auranofin
16. Drugs used in gout (4)
17. Interferon
18. TNF a Antagonists
19. Paracetamol poisoning
20. Selective 5-HT 1B/1D agonist
21. Aspirin
22. Sumatriptan
23. Methotrexate

4. HORMONES

ESSAYS:
1. Drugs in DM – Mech. of action, Adverse Effects or oral hypoglycemics (2)
2. Antithyroid drugs – Mech. Of action, thyroid crisis, thionamides (2)
3. Glucocorticoids, Pharmacological actions, uses, precautions on long term therapy
4. Classify anti - fertility agents
5. classify oral hypoglycemic drugs (2)
6. classify adrenal corticosteroids (2)
7. Hormonal contraception- various methods, mechanism of action and complications
8. Enumerate DNA recombinant derived insulins, newer insulin analogues and insulin resistance

SHORT NOTES:
1. Carbimazole (2)
2. OCP (5)
3. injectable contraceptives
4. hormonal contraceptives
5. Oxytocin (2)
6. oxytocics
7. Classify thyroid inhibitors
8. Metyrapone
9. Uses of Glucocorticoids and its contraindications
10. Prednisolone (2)
11. ovulation inducing agents (2)
12. Antithyroid drug
13. Selective estrogen receptor modulators (2)
14. Anti-estrogen
15. Hormone replacement therapy (2)
16. Iodine
17. Synthetic corticosteroids
18. Chlorpropamide
19. Tocolytic agents (3)
20. insulin preparations
21. Clomiphene citrate
22. Oral hypoglycemics (2)
23. Lugol’s iodine
24. Newer insulin (3)
25. Mech of action sulfonyl urea (2)
26. Anabolic steroids (2)
27. Gliclazide
28. Adverse effects of insulin
29. Human insulin (2)
30. Mifepristone
31. Compare and contrast ergometrine & oxytocin
32. Diabetic ketoacidosis management
33. Insulin resistance (2)
34. Propyl thiouracil
35. Raloxifene
36. Iodides- Uses and adverse effects
37. Zoledronate
38. Emergency contraception
39. Superactive GnRH agonist and their uses
40. Metformin
41. Gonadotropins- uses and adverse effects
42. citaglip tin
43. 5-alpha reductase inhibitors
44. Radioactive iodine
45. Clinical uses of somatostatin and octreotide

5.GA, LA & SKELETAL MUSCLE RELAXANTS

ESSAYS:
1. Stages of GA – classify, merits & demerits of ether halothane and pentathol Na
2. Skeletal muscle relaxants – Mech. Of action, uses, Adverse effects. α-tubocurarine its action and toxicity and malignant hyperthermia

SHORT NOTES:
1. Lignocaine
2. Intravenous GA
3. Ketamine
4. Nitrous oxide
5. Succinyl Choline or Scoline (5)
6. Ether
7. Mech of action of LA
8. Preanesthetic medication (2)
9. Rationale or CI of adrenaline along with Local anesthetics (2)
10. Spinal anaesthesia and complication (2)
11. Propofol as inducing agent
12. LA in presence of inflammation
13. GA complications
14. Centrally acting muscle relaxant

6. CENTRAL NERVOUS SYSTEM ESSAY:
1. Antiparkinsonian drugs – Mech of action & uses. Dopamine agonist and L-dopa (4)
2. Anticonvulsant drugs – Mech of action, Adverse effects and uses
3. Antiepileptic drugs – Classify, mech of action, Side effects of 3 groups of drugs. Diphenyl hydantoin mechanism of action, adverse effects and indications. Role of topiramate. Pharmaceuticalogy of drugs acting on GABA receptors (4)
4. Antipsychotics – mechanism, pharmacological actions, preparations with doses, Chlorpromazine (2)
5. Sedative – hypnotics – Classify, mechanism, uses, Adverse effects of Benzodiazepines (2)
6. Opioid analgesics – actions, uses, Adverse effects of morphine

SHORT NOTES:
1. Flumazenil
2. Treatment of Barbiturate poisoning (3)
3. Phenytoin (4)
4. Levodopa
5. Diazepam
6. Imipramine
7. Chlorpromazine
8. Neuroleptoanalgesia
9. L-dopa + Carbidopa – explain rationale
10. Methanol poisoning (2)
11. Pure Opioid antagonists (2)
12. Selective serotonin reuptake inhibitors (3)
13. Treatment of status epilepticus (2)
14. Fluoxetine
15. Distinguish Fluoxetine & Imipramine
16. Morphine
17. Drug induced Parkinsonism
18. Carbamezapine
19. Atypical antipsychotics (1)
20. Adverse effects of Phenothiazine
21. Drug therapy of Parkinsonism
22. Benzodiazepines
23. Rationale of ethanol in methanol poisoning
24. Treatment of Alzheimer’s disease
25. Balanced anaesthesia
26. Malignant neuroleptic syndrome
27. Pentazocine
28. Metaclopramide
29. ADH inhibitors
30. Sodium valproate
31. Opiod receptors
32. Bromocriptine

7. CARDIOVASCULAR SYSTEM

ESSAY:
1. Anti hypertensive agent – mechanism (7)
2. Cardiotonic agent? Digoxin – Uses & mechanism (2)
3. Drugs in CCF – mechanism, Pharmacological actions, Adverse Effects, uses of any three (2)
4. Antianginal drugs

SHORT NOTES:
1. Positive inotropic agents in CCF
2. calcium channel blockers (5)
3. Enalapril (3)
4. Losartan (3)
5. Verapamil
6. Nifedipine (1)
7. Advantages of ACE inhibitors
8. Pentoxiphylline
9. Treatment of HT emergency (2)
10. Role of organic nitrate in MI
11. Digitalis toxicity and its contraindicaations
12. K+ Channel openers
13. Angiotensin inhibitors
14. Ramipril
15. Captopril
16. Organic nitrates (2)
17. Drugs in cardiogenic shock
18. Amiodarone
19. clonidine
20. Quinidine
21. Treatment of MI
22. CLASS 3 Anti arrhythmic drugs
23. Venodilators

8. KIDNEY

ESSAY:
1. Diuretics – Mechanism, adverse effects (2)

SHORT NOTES:
1. K+ sparing diuretics (5)
2. Mannitol (2)
3. Loop diuretics (3)
4. Furosemide (3)
5. osmotic diuretics (2)
6. High ceiling diuretics
7. Spironolactone(1)
8. Acetazolamide

9. BLOOD

ESSAY:
1. Anticoagulants – Pharmacological actions, overdose, Treatment of heparin

SHORT NOTES:
1. Antiplatelet drugs (2)
2. Enoxaprine
3. Oral and parenteral iron therapy
4. Heparin (2)
5. Heparin Vs Warfarin (2)
6. Streptokinase (2)
7. Urokinase
8. Fibrinolytics (4)
9. Plasma expanders
10. Thrombolytic drugs
11. Vit K
12. Lovastatin (2)
13. Oral anticoagulants
14. Atorvastatin
15. Agents lowering serum lipids
16. Iron preparation and uses
17. Statins
18. Epsilon amino caproic acid
19. Gp IIB/IIIA antagonists
20. Plasma expanders
21. Low molecular weight heparin

10. GIT

ESSAY:
1. Peptic ulcer drugs – Classify, mechanism, uses. Proton pump inhibitors-mechanism of action and uses (2)
2. Purgatives- mechanism, uses
3. Classify dopamine receptors. Mention its agonists and antagonists. Metaclopramide-mechanism of action, uses and adverse effects
4. Discuss pharmacotherapy of H.pylori infections

SHORT NOTES:
1. Ranitidine (3)
2. Prokinetic agents (4)
3. H2 blockers (3)
4. Omeprazole (2)

11. ANTIMICROBIALS

ESSAY:
1. Antimalarial drugs – classify, mechanism, uses, adverse effects of chloroquine, Drug therapy for P. vivax (4)
2. Antiamoebic drugs. Nitroimidazole, nitazoxanid, metronidazole- mechanism of action, spectrum of activity and uses
3. Antileprotic drugs (3)
4. Antituberculous treatment – Classify, uses, Adverse effects .short course treatment of TB(4)
5. Penicillin – Classify, spectrum, uses, adverse effect of benzyl penicillin G (3)
6. ß – lactum antibiotic – mechanism, adverse effects, uses any 3
7. Antiviral drugs – mechanism, action, adverse effect, uses in AIDS. (2)
8. Tetracycline (4)
9. Classify the drugs used in the treatment of fungal infection. Ketoconazole – action, uses and adverse effects (2)
10. Classification of Macrolide antibiotics, Erythromycin
11. Aminoglycoside antibiotics- mechanism of action, adverse effects, therapeutic uses of gentamycin
12. Fluoroquinolones- Classification, mechanism of action and use of second generation fluoroquinolones.
14. Cephalosporins- action, Uses and ADR. Write briefly about post antibiotic effect.

**SHORT NOTES:**
1. Bacterial resistance (3)
2. 4- aminoquinolines
3. Cinchona alkaloids
4. Cephalosporins
5. doxycycline and their advantages over tetracycline (2)
6. cefotaxime
7. INH
8. Gentamycin (2)
9. Artemisinin derivatives
10. Rifampicin (3)
11. Niclosamide
12. Cotrimoxazole (4)
13. Amphotericin B
14. Antiamoebic drugs
15. Praziquantel
16. Metronidazole (7)
50. Extra malarial uses of chloroquine and its rationale
51. Define chemoprophylaxis and give examples
52. Repository preparation of penicillin
53. Amikacin
54. Chloroquine
55. Fluconazole
56. Management of cerebral malaria
57. Pyrazinamide
58. Drugs used in typhoid fever
59. Diethyl carbamazine citrate
60. Pyrimethamine
61. Meropenem
62. Erythrocytic schizonticidal agents
63. Clofazimine in leprosy
64. Fusion inhibitors in HIV infections
65. Newer macrolides
66. Gatifloxacain
67. Role of corticosteroids in TB
68. Artemisinin based combination therapy
69. Fourth generation cephalosporins
70. Antipsuedomonal penicillin
71. Sulfasalazine
72. Short course chemotherapy in TB
73. Prophylaxis of HIV infection
74. Lepra reaction(1)

1. Salbutamol (1)
2. Prophylaxis of Bronchial asthma
3. Drugs used in Bronchial asthma, different technique of administration
4. Glucocorticoids in BA
5. Status asthmaticus (2)
6. Dextromethorphan
7. Betamethasone
8. Expectorants
9. Zileuton
10. Nasal decongestants
11. Bronchodilator drugs
12. Centrally acting cough suppressants
13. Drugs eliminated through lungs
14. Anti-tussives
15. Mast cell stabilisers
16. Mucokinetic agents

13. CHEMOTHERAPY OF NEOPLASTIC DISEASES

ESSAY:
1. Antimetabolites used in neoplastic disease- classification. Mechanism of action of methotrexate, uses and treatment of methotrexate toxicity

SHORT NOTES:
1. Cyclophosphamide
2. Methotrexate (4)
3. Methotrexate Leucovorine rescue
4. Plant alkaloids in cancer chemotherapy
5. Cisplatin
6. immunosuppressents
7. Vinca alkaloids (2)
8. Anticancer antibiotics (2)
9. Vincristine
10. Carboplatin
11. Purine antagonists
12. Dimercaprol (2)
13. Dihydro folate reductase inhibitors
14. Alkylating agents
15. Desferrioxamine
16. Scabiesidal agents
17. Bleomycin
18. classification of anticancer drugs
19. Biological response modifiers

14. MISCELLANEOUS

ESSAY
1. Immunosuppressants. Classification, mechanism of action, adverse effects, uses of calcinurin inhibitors

SHORT NOTES:
1. Chelating agents
2. Anti-oxidant vitamins
3. Penicillamine
4. Cyclosporine (3)
5. Vit D (2)
6. Vit A (2)
7. Vit C
8. Desferrioxamine or Desferal (2)
9. Sun screens
10. Mycophenolate Mofetil
11. Tacrolimus
12. Scabiesidal agents (3)
13. BAL
14. Therapeutic uses of oxygen
15. Drugs for psoriasis
16. Post exposure prophylaxis of rabies
17. PUVA
18. Calcineurin inhibitors, mechanism of action and uses
19. Treatment of Acne vulgaris

SHORT ANSWERS:
1. Name two selective CoX 2 inhibitors
2. Rationale of giving adrenalin along with local anaesthetics
3. Write two therapeutic uses of Ondansetran
4. Mention two advantages and dis-advantages of sublingual route of drug administration
5. Drugs used in cardiogenic shock
6. Centrally acting cough suppressants & their uses
7. Therapeutic Uses of Amiodarone
8. Name two second generation, Antihistamines and their therapeutic uses
9. Therapeutic uses of organic nitrates
10. Adverse effects of Spirinolactone
11. Name two drugs used in trigeminal neuralgia.
12. Contra indications of adrenaline along with local anaesthetics.
13. Adverse effects of phenothiazines.
14. Therapeutic uses of alpha blockers.
15. Drugs used in status epilepticus.
16. Mention two drugs used in glaucoma with the rationale.
17. Mention two groups of drugs used in prophylaxis of migraine.
18. Treatment of methyl alcohol poisoning.
19. Mention two adverse effects of beta blockers.
20. Adverse effects of Aminoglycosides
21. Name two immunosuppresants and their uses
22. Ivermectin therapeutic uses
23. Name two anticancer antibiotic and write their therapeutic uses
24. Name drugs of 3rd generation cephalosporin
25. Dimercaprol
26. Radio-active iodine
27. Adverse effects of oral contraceptive pills
28. Triple drug regime of peptic ulcer
29. New Routes of drug delivery system of insulin
30. Drugs used in anaphylactic shock.
31. Uses and toxicity of quinine.
32. Name two drugs used in motion sickness with the rationale.
33. Mention four 2nd generation cephalosporins.
34. Rationale of combining aluminium and magnesium salts in antacids.
35. Mention two anticancer antibiotics with their indication.
37. Name two drugs used in scabies with their route of administration.
38. Mention four inhalational corticosteroids.
39. Specific adverse effects of fluoroquinolones.
40. Mention two alpha glucosidase inhibitors and indication.
FORENSIC MEDICINE

1. LEGAL PROCEDURE

SHORTNOTES:
1. Subpoena (3)
2. Magistrate inquest (2)
3. Conduct money
4. Medical evidence
5. Dying declaration (3)
6. Expert witness
7. Hostile witness
8. Cognisable offence
9. Cross Examination (2)

2. MEDICAL LAW AND ETHICS

ESSAY:
1. The functions and state medical council and professional misconduct / warning notice and rules of consent (2)
2. Professional misconduct and procedure of disciplinary action in such a case with example
3. Define medical negligence discuss a cause of medical negligence (2)

SHORTNOTES:
1. Indian Medical council
2. State medical council
3. Penal erasure
4. Professional death sentence
5. Medical indemnity insurance
6. Infamous conduct
7. Privileged communication (2)
8. Resipsa loquitur
9. Malingering
10. Corporate negligence
11. Contributory Negligence (3)
12. Vicarious liability (3)
13. Consent , rules of consent (2)
14. Euthanasia
15. Lucid interval (2)
16. Consumer protection act

3. IDENTIFICATOIN

SHORTNOTES:
1. Gustafson’s method
2. Medico legal importance of age (2)
3. Dactylography (5)
4. Application of X-ray in FM
5. Superimposition
6. Tattoo marks (2)
7. Hair
8. Rule of Hasse

4. MEDICO LEGAL AUTOPSY

SHORTNOTES:
1. Objectives of medico legal autopsies(2)
2. Medico legal autopsy (2)
3. Air embolism
4. Method of examination of heart in autopsy
5. Exhumation
5. DEATH AND ITS CAUSE

SHORTNOTES:
1. Concept of brain death
2. Mode of death (2)
3. Obscure autopsy

6. POSTMORTEM CHANGES

ESSAY:
1. Various factors that help in establishing the time since death
2. The late changes occurring after death, discuss the changes taking place in decomposition and the M.L significance
3. Rigor mortis
4. Muscular changes in a Dead body (2)

SHORTNOTES:
1. Postmortem caloricity
2. Marbling
3. Suspended animation
4. Infamous animation
5. Rigor mortis (2)
6. Cadaveric spasm (3)
7. Adipocere
8. Changes in the eye after death (2)

7. MECHANICAL INJURIES

ESSAY:
1. Mechanical injuries, Difference between Suicidal and homicidal / Difference between laceration and inside wounds. (2)
2. Abrasion types & medico legal importance
3. Antemortem wounds and various causes of death from wounds
4. Classify injuries and discuss cause of death, Difference between antemortem and postmortem wounds

SHORTNOTES:
1. Difference between incised and stab wounds
2. Weapon identification by examination of stab injuries
3. Determination of calibre of gun
4. Abrasion collar (2)
5. Laceration
6. Bomb blast injuries
7. Contre – coupe injuries
8. Primary impact injuries

8. REGIONAL INJURIES

SHORTNOTES:
1. Skull fracture (2)
2. Whiplash injury

9. MEDICO LEGAL ASPECTS OF WOUNDS

ESSAY:
1. What is culpable homicide? Discuss on justifiable homicide

SHORTNOTES:
1. Grievous hurt (5)
2. Indecent assault
3. Section 320 IPC
4. Dowry death
5. Defence wounds

10. THERMAL DEATH

SHORTNOTES:
1. Rules of nine
2. Antemortem burns
3. Scalds
4. Joule burn

11. MECHANICAL ASPHYXIA

ESSAY:
1. Define & Classify hanging & discuss complete hanging (2)
2. Classify asphyxial forms of death and difference between hanging and strangulation by ligature (2)
3. Various types of violent Asphyxial Death, Signs, symptoms, Treatment & post mortem appearance of Drowning

SHORT NOTES:
1. Manual strangulation
2. Postmortem finding in throttling
3. Fracture of hyoid bone (3)
4. Traumatic asphyxia (2)
5. Café coronary
6. Postmortem appearance of drowning (2)
7. Gettlers test
8. Diatoms test
9. Sexual asphyxia

CHAPTERS 15 - 20

ESSAY:
1. Artificial insemination (4)
2. Define Rape & Examination of Victim (4)
3. Define abortion and describe MTP
4. Live birth, Difference between Still and live birth (2)

SHORTNOTES:
1. Hymen (3)
2. Signs of virginity
3. Battered baby syndrome
4. Gonadal dysgenesis
5. Super foetation
6. Signs of recent delivery in the dead
7. Genital examination in rape victim
8. Section 375 of I.P.C
9. Collection of evidence in rape cases
10. Inter sex and its medico legal importance
11. Sodomy (2)
12. Masturbation
13. Sexual perversions
14. Custodial Rape
15. Masochism
16. Medical termination of pregnancy (MTP act 1971) (4)
17. Rules of MTP
18. Maceration (3)
19. Dead born foetus
20. Signs of live birth
21. Hydrostatic test (2)
22. Crib death (SIDS)
23. Disputed paternity
24. Precipitin Test
25. Acid digestion test

21. FORENSIC PSYCHIATRY

ESSAY:
1. The restraints of an Insane person

SHORT NOTES:
1. Delusion (4)
2. Hallucination (3)
3. Impulse
4. Obsession
5. Civil responsibility of insane person
6. Testamentary capacity insanity (2)
7. McNaughten’s Rules
8. A.L.I Test
9. Criminal responsibility of mentally ill person

22. ARTEFFECTS

23. FS LABORATORY

SHORT NOTES:
1. Locard’s principle (2)
2. Polygraph

TOXICOLOGY

ESSAY:
1. Classify poisons & the duties of a doctor in a case of poisoning / management of a cause of acute poisoning (3)
2. Stomach wash with diagram & antidotes
3. OPC Poisoning (2)
4. Acute Phenol poisoning
5. Insecticide poisoning
6. Define drunkenness and methanol poisoning
7. Methanol poisoning (2)
8. Enumerate alkaloids and morphine poisoning
9. Barbiturate poisoning
10. Hydrocyanic acid poisoning
11. Phenobarbitone Poisoning

SHORT NOTES:
1. Stupefying agents
2. Duties of medical practitioner of the cause of poisoning
3. Universal antidote (2)
4. Chronic mercury poisoning
5. Plumbism
6. Acute lead poisoning
7. Mechanical poisons
8. Phytotoxin
9. Difference between poisonous and non-poisonous snake
10. Treatment of vipers’ snake bite
11. Viper bite
12. First aid for snake bite
13. Hallucinogenic drug (2)
14. Datura poisoning (2)
15. Marihuana
16. Run amok (2)
17. Difference between drug addiction and habituation
18. War gases

**SHORT ANSWERS:**

1. Poroscopy
2. Conduct money
3. Gagging
4. Heat ruptures
5. Ricochet bullet
6. Superfoetation
7. Oxaluria
8. Viability
9. Universal antidote
10. Hippus
11. Perjury
12. Turner syndrome
13. Joule burn
14. Abrasion collar
15. Voyeurism
16. Lochia
17. Vitriolage
18. Run amok
19. Embalming
20. Atavism