

POST-GRADUATE DEGREE (M.D.) EXAMINATION – JANUARY 2025

Time: 3 Hours

Max. Marks: 100

PATHOLOGY

PAPER – III

(Hematology, Transfusion Medicine [Blood banking] and Laboratory Medicine)

Q.P. Code: 1215

Answers should be specific to the Questions asked.

Draw neat, labeled diagrams and flow charts wherever necessary.

All questions are compulsory.

Question Number		Marks
	ESSAY QUESTIONS:	10 X 10 = 100
1.	Enumerate renal function tests and their normal values. Discuss their importance in diagnosis of various diseases.	(4+6)
2.	A 4-year-old male child with Down's syndrome complains of fever, cough, rashes, body ache since 15 days. On examination he has pallor, sternal tenderness, cervical and axillary lymphadenopathy, splenomegaly, hepatomegaly. On laboratory investigation HLA DR+, CD 19 +, CyCD 79 a + a. What is the diagnosis of the above case? b. Classify the above condition. c. What are the other laboratory investigations and differential diagnosis for the above condition?	(1+3+6)
3.	Classify and discuss the pathology of Hodgkin's disease.	(3+7)
4.	60-year-old male, complains of headache, loss of memory, vertigo, dizziness, ruddy face, red eyes, pruritis which is aggravated by bathing in warm water, weight loss and sweating. Patient gives a positive history of peptic ulcer. On examination he has pallor, moderate splenomegaly, mild hepatomegaly, hypertension, ESR – 00mm/at the end of 1st hour, HCT = 60% a. What is the diagnosis of above case? b. What are the differential diagnosis of the same? c. What are the other laboratory investigations for the above condition?	(1+3+6)
5.	40-year-old male in December complains of fever, chills, rigor, abdominal pain, headache, vomiting, leg cramps with passage of high colored urine. On examination he has mild jaundice +, mild hepatosplenomegaly, color doppler showed hepatic and portal thrombosis. FLAER test is Positive a. What is the diagnosis of above case? b. Discuss the pathogenesis of the above condition. c. What are the laboratory investigations for the above condition? d. Mention the progress of this disease.	(2+3+4+ 1)
6.	3-year-old male child presented with febrile illness, bloody diarrhea, vomiting, abdominal pain, passage of dark colored urine and progressive oliguria. On examination he has purpura. Laboratory investigations showed blood urea 102 mg/dl, serum creatinine 3.2 mg/dl a. What is the diagnosis of above case? b. Discuss its etio-pathogenesis. c. What are the laboratory investigations for the above condition?	(1+5+4)
7.	Discuss laboratory diagnostic tests for differential diagnosis of microcytic hypochromic anemia	
8.	Enumerate the Hypercoagulability states. Discuss laboratory diagnosis of the same	(3+7)
9.	Discuss bone marrow changes in Acquired Immunodeficiency Syndrome.	
10.	Discuss indications, procedure, advantages and drawbacks of Autologous Blood Transfusion.	(2+4+4)

POST-GRADUATE DEGREE (M.D.) EXAMINATION – JANUARY 2025

Time: 3 Hours

Max. Marks: 100

MICROBIOLOGY

PAPER – III

(Mycology, Virology, Parasitology)

Q.P. Code: 1219

Answers should be specific to the Questions asked.

Draw neat, labeled diagrams wherever necessary.

All questions are compulsory.

Question Number	Marks
ESSAY QUESTIONS:	10 X 10 = 100
1. Classify Zygomycosis with examples. Describe clinical manifestations and laboratory diagnosis of Mucormycosis.	(2+4+4)
2. Enumerate the emerging respiratory viral infections. Describe the pathogenesis of Cytokine storm in SARS CoV-2 infection. Which are the biomarkers used to monitor the severity of the infection.	(2+5+3)
3. Describe the various viral cultivation methods. Enlist their advantages and disadvantages.	(6+4)
4. Classify Protozoa. Describe the general characteristics of protozoa.	(4+6)
5. Enumerate the opportunistic fungal infections. Discuss pathogenesis and laboratory diagnosis of Cryptococcosis.	(3+3+4)
6. Discuss the pathogenesis, clinical features and laboratory diagnosis of Sporotrichosis.	(3+2+5)
7. A 15-year-old girl was brought to emergency department with decreased oral intake, restlessness and fever. Child was febrile with decreased level of consciousness. Her peripheral blood smear showed multiple rings of the parasite inside the RBCs. a) What is the probable diagnosis? b) Describe the various diagnostic modalities available for the given case. c) List the complications anticipated for the above case.	(2+5+3)
8. A 45-year-old man from Nepal had joined work around six months back as a domestic helper, came to causality with intermittent fever and a loss of weight and appetite over the last two months. On examination: he has pallor and mild hepatosplenomegaly. Investigations showed, he was anemic and had raised ESR. Bone marrow aspiration is performed which showed amastigote forms. a) What is the probable diagnosis? b) Describe the pathogenicity. c) Discuss in detail the laboratory diagnosis of this condition.	(2+4+4)
9. A 60-year-old woman came to causality with a history of chronic obstructive airway disease and fever of 39°C. Her fever and cough showed rapid progression and she later developed dyspnea with respiratory distress. Her blood gas analysis was consistent with hypoxia and her chest X-ray showed bilateral ground-glass opacities with areas of consolidation. Her nasopharyngeal aspirate was subjected to PCR, which was positive for the influenza virus H1N1. a) Classify influenza viruses. b) Differentiate between antigenic drift and shift. c) Add a note on replicative cycle.	(2+4+4)
10. A 30-year-old woman was brought to causality with complaints of fever, anorexia and vomiting for the past four days followed by delirium, hallucination and severe spasms on drinking fluids. Her relatives gave history that she had been bitten by a stray dog about three months back. a) What is the probable diagnosis? b) Describe its pathogenesis. c) Discuss in detail the laboratory diagnosis of the above case.	(2+4+4)

POST-GRADUATE DEGREE (M.D.) EXAMINATION – JANUARY 2025

Time: 3 Hours

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PHARMACOLOGY

PAPER – III

(Systemic Pharmacology – II: Endocrines, chemotherapy and immunopharmacology)

Q.P. Code: 1223

Answers should be specific to the Questions asked.

Draw neat, labeled diagrams wherever necessary.

All questions are compulsory.

Question Number

Marks

LONG ESSAY QUESTIONS:

10 X 10 = 100

1. A 63-year-old male presented to the casualty in altered mental status associated with anxiety, agitation, fever, and chills of one-day duration. The patient had been diagnosed with hyperthyroidism about two years prior and had been on treatment which he stopped taking for the past 3 months. The patient was uncooperative, pulse rate was 150 beats per minute, BP: 150/100mmHg, temperature 102°F, respiratory rate: 20 breaths per minute and oxygen saturation was 95% on room air. No focal consolidation was noted on chest X ray. Electrocardiography (ECG) shows sinus tachycardia. Thyroid function tests reveal raised T3 and T4 and low TSH level. Identify the given condition and discuss the pharmacotherapy of the same. (2+8)
2. Describe the principles of treatment of HIV for an adult patient. Add a note on post exposure prophylaxis of HIV. (6+4)
3. Discuss the pharmacology of inhalational steroids. Add a note on management of acute severe asthma (5+5)
4. A 70-year-old male complains of increased frequency and urgency to pass urine. There is hesitancy and straining while passing urine and urinary stream is weak and the volume of urine passed per episode is small. Identify the condition and discuss the pharmacology of the drugs used in treating the same. (2+8)
5. Classify drugs used in the treatment of diabetes mellitus. Discuss the pharmacology of drugs acting through the incretion system. (3+7)
6. A 60-year-old lady presents to the doctor with advanced left sided carcinoma of the breast which is inoperable. Discuss the pharmacology of various drugs other than cytotoxic drugs which can be used in the treatment of this patient. (6+4)
7. Discuss the pharmacology of iron chelating agents. Add a note on management of acute iron poisoning (6+4)
8. Discuss the objectives of combined use of antimicrobial drugs. Add a note on disadvantages of such combinations. (7+3)
9. A 40-year-old male patient presents to the OPD complaining of itchy, red areas with increased skin scaling and peeling on the elbows and knees. Examination reveals raised, inflamed lesions covered with a silvery white scale. Scraping of the scales reveals inflamed skin beneath. Identify the condition and discuss the pharmacology of various classes of drugs used in the treatment of the same. (2+8)
10. Discuss the pharmacology of drugs used in the amelioration of nausea and vomiting of anticancer drugs

POST-GRADUATE DEGREE (M.D.) EXAMINATION – JANUARY 2025

Time: 3 Hours

Max. Marks: 100

FORENSIC MEDICINE
(*Laws in relation to Medical Profession*)

PAPER – III

Q.P. Code: 1227

Answers should be specific to the Questions asked.
Draw neat, labeled diagrams wherever necessary.
All questions are compulsory.

Question Number	Marks
LONG ESSAY QUESTIONS:	
	10 X 10 = 100
1. What is Anoxia? Mention types of Anoxia and discuss the pathophysiology and medico legal importance of Asphyxia.	(2+3+5)
2. A 35-year-old unmarried primigravida in second trimester was brought dead in casualty with history of shortness of breath and hypotension following instrumental abortion. Discuss in detail the findings of autopsy and histo-pathology.	(6+4)
3. Discuss the recent developments concerning Euthanasia & your views on legalizing it in India.	(5+5)
4. Critically evaluate the Rape Law in India. Indicate the modern trends about the subject in India.	(5+5)
5. Discuss the perineal & anal examination findings in an alleged sexual offence victim.	(6+4)
6. Body of 13-year-old child is to be retrieved from an illegally buried site after 15 days of burial for reason of suspected foul play. Describe the medico legal management of the case to aid investigations by the law enforcing agencies.	
7. Describe & classify the injuries sustained by a pedestrian in road traffic accidents.	
8. Discuss DNA profiling & its role in Forensic Investigation.	(4+6)
9. Define 'Brain death'. Discuss the types & criteria for diagnosing brain death.	(1+4+5)
10. A 30-year-old male allegedly fell from a 20-story building while working on a balcony. How will you ascertain that it is accidental in nature and not suicidal?	

POST-GRADUATE DEGREE (M.D.) EXAMINATION – JANUARY 2025

Time: 3 Hours

Max. Marks: 100

COMMUNITY MEDICINE

PAPER – III

Q.P. Code: 1231

Answers should be specific to the Questions asked.
Draw neat, labeled diagrams wherever necessary.
All questions are compulsory.

Question Number

Marks

LONG ESSAY QUESTIONS:

10 X 10 = 100

1. A National Health Survey reveals a rising trend in obesity and related chronic conditions such as type 2 diabetes and hypertension in adult population. Plan an epidemiological study design to determine the risk factors for obesity in an urban adult population.
2. There was a dumping area 5 kms away from a semi urban place. The trucks used to carry domestic waste along with bio medical waste. (3 +7)
 - a) What are the health hazards of biomedical waste to the community?
 - b) How to segregate and dispose biomedical waste?
3. Enumerate International Health Agencies. Discuss in detail United Nations Children's Fund (UNICEF)
4. Name the legislations to safeguard the children and young. Write in brief about " The Juvenile Justice Act, 1986".
5. What is Institutional Ethics Committee (IEC)? Write the composition and responsibilities of IEC. (2+8)
6. Enlist the sources of Health Information System. Discuss about the census in detail (3+7)
7. Mrs. X was 18 years old daily wage worker, married to Rickshaw driver. Mrs. X was addicted to tobacco chewing for the last 5 years. Husband and wife used to stay in urban slum. Mrs. X got pregnant after 4 years of married life. As she was daily wage worker, she went to private practitioner only two times throughout her pregnancy who was not qualified and gave tonic injection and some iron tablets. At 32 weeks of gestation, she had severe labor pain and had still birth in Government hospital.
 - a) Enlist all the social factors which contributed for her condition.
 - b) Discuss the measure to be taken to prevent adverse outcome.
8. A film star was arrested and put in a jail for murder case. After 24 hours in jail he developed slurred speech, small tremors and started shouting loudly. He was restless and was not able to sleep also. He was diagnosed as alcohol withdrawal syndrome (4+6)
 - a) What are the health and social effects of alcohol addiction?
 - b) Discuss about rehabilitative measures for such condition.
9. Explain compassion, competence and autonomy with regards to medical research.
10. Enumerate Laws of Inheritance. Explain in detail the Chromosomal disorders related to sex chromosomes. (2+8)

POST-GRADUATE DEGREE (M.D.) EXAMINATION – JANUARY 2025

Time: 3 Hours

Max. Marks: 100

ANAESTHESIOLOGY
PAPER – III
(Clinical Practice of Anaesthesia)

Q.P. Code: 1235

Answers should be specific to the Questions asked.
Draw neat, labeled diagrams wherever necessary.
All questions are compulsory.

Question Number	Marks
LONG ESSAY QUESTIONS:	10 X 10 = 100
1. Discuss the clinical features and management of a diabetic ketoacidosis.	(5+5)
2. Discuss the anaesthetic management of a vegetable seed in a right main bronchus in a 5 year old child posted for rigid bronchoscopy.	
3. Describe the anaesthetic management of an obese patient posted for liposuction.	
4. Describe the anaesthetic management of patient with head injury after road traffic accident.	
5. Enumerate physiological changes in geriatric patients. Explain their anaesthetic considerations.	(5+5)
6. Discuss the anaesthetic management of male patient posted for thoracic aortic aneurysm repair.	
7. Discuss anaesthetic implications in anaemic patient.	
8. Explain anaesthetic considerations in patients with porphyria.	
9. Discuss the anaesthetic management of 5 year old child with 40% burns posted for debridement and grafting.	
10. What is day care anaesthesia? List different anaesthetic techniques of day care anaesthesia with merits and demerits.	(3+7)

POST-GRADUATE DEGREE (M.D.) EXAMINATION – JANUARY 2025

Time: 3 Hours

Max. Marks: 100

DERMATOLOGY, VENEREOLOGY AND LEPROSY

PAPER – III

(Venereology and Leprosy)

Q.P. Code: 1239

Answers should be specific to the Questions asked.
Draw neat, labeled diagrams wherever necessary.
All questions are compulsory.

Question Number

Marks

LONG ESSAY QUESTIONS:

10 X 10 = 100

1. Illustrate a schematic diagram of *Treponema pallidum*. Describe pathogenesis of syphilis. Add a note on transmission of syphilis. (4+4+2)
2. A 24-year-old male presented with painful sores over genitalia. Plan the management of the case. Add a note on differential diagnosis of the case. (6+4)
3. A 32-year-old male patient presented to dermatology OPD with boggy swelling in genitalia. Discuss the differential diagnosis of the case. Add a note on the complications of the case. (6+4)
4. Approach to case of perianal ulcers in homosexual men. Add note on its management. (6+4)
5. Write in detail about mucocutaneous manifestations of HIV-AIDS. Add a note on Oral hairy leukoplakia. (6+4)
6. Write about clinical features, histopathology and management of childhood leprosy. Add a note on chemoprophylaxis in leprosy. (6+4)
7. A 32-year-old male patient diagnosed with leprosy presented to OPD with fever, rash and hepatosplenomegaly since 5 days. He was started on MDT 15 days back. Discuss the management of this case. Write about side effects of clofazamine. (6+4)
8. A 42-year-old male presented with trophic ulcers over foot since 2 months. How to evaluate this case? Add a note on etiopathogenesis of trophic ulcer in leprosy. (6+4)
9. Explain various animal models in leprosy. Add a note on mouse foot pad inoculation. (8+2)
10. Write in detail about management of type 1 and type 2 lepra reactions. Add a note on MOA and side effects of thalidomide. (8+2)

POST-GRADUATE DEGREE (M.D.) EXAMINATION – JANUARY 2025

Time: 3 Hours

Max. Marks: 100

GENERAL MEDICINE

PAPER – III

*(Central nervous system, respiratory system, immune system,
connective tissue and joint disorders)*

Q.P. Code: 1243

Answers should be specific to the Questions asked.
Draw neat, labeled diagrams wherever necessary.
All questions are compulsory.

Question Number

Marks

LONG ESSAY QUESTIONS:

10 X 10 = 100

1. A 70- year old female with a history of hypertension presents with palpitations and dizziness. On examination; irregularly irregular pulse is noted. Write your diagnosis, investigations and management of this condition. (2+3+6)
2. A 60-year-old female with a history of mechanical aortic valve replacement presents with dyspnea on exertion and palpitations. On auscultation, a mechanical clicking sound is heard at the right upper sternal border, and an early systolic murmur is noted. What is the clinical diagnosis for the given condition? Discuss the investigation and management options focusing on mechanical valve complications. (2+4+4)
3. A 60-year-old male smoker with a history of hypertension and hyperlipidemia presents to the emergency department with chest pain radiating to his left arm. The pain started 30 minutes ago and is associated with diaphoresis and nausea. On examination, he appears diaphoretic and anxious. His blood pressure is 160/90 mmHg, heart rate is 110 bpm, and oxygen saturation is 96% on room air. ECG shows ST-segment elevation in leads II, III, and aVF. Describe your initial management, diagnostic workup, and therapeutic strategies for this patient. (2+4+4)
4. A 60-year-old chronic smoker presents with hemoptysis and weight loss. Give your differential diagnosis. Discuss the investigations and management of this patient. (2+4+4)
5. Discuss the immunopathophysiology, clinical features and management of hypersensitive pneumonitis. (2+3+5)
6. Describe the immunopathology, clinical features of Rheumatoid Arthritis and discuss the targeted therapies. (5+5)
7. Discuss the pathophysiology and clinical features of gout. Discuss the management strategies of acute and chronic gout. (5+5)
8. Describe the pathophysiological mechanisms underlying adult nephrotic syndrome. Explain the clinical features, diagnosis and management. (2+8)
9. Describe the mechanisms of toxicity in organophosphorus poisoning. Discuss the clinical features and management of organophosphorus poisoning. (3+4+3)
10. Discuss the pathophysiology and clinical presentation of preeclampsia. How do these impact maternal and fetal outcomes? (3+4+3)

POST-GRADUATE DEGREE (M.D.) EXAMINATION – JANUARY 2025

Time: 3 Hours

Max. Marks: 100

PAEDIATRICS
PAPER – III
(General Paediatrics – II)

Q.P. Code: 1247

Answers should be specific to the Questions asked.
Draw neat, labeled diagrams wherever necessary.
All questions are compulsory.

Question Number

Marks

LONG ESSAY QUESTIONS:

10 X 10 = 100

1. A 15-year-old male patient presents with delayed puberty, tall stature, low testicular volume and mild developmental delay. Discuss the primary treatment options and management strategies for this patient. (5+5)
2. A seven-year-old girl is admitted with pain and swelling of right knee and left ankle joint of two weeks duration. Enumerate the likely causes. Discuss the differential diagnosis highlighting important pointers in history, examination and investigations. (3+7)
3. Enumerate the components of HEADSS screening in adolescent. Discuss briefly about Adolescent abuse. (5+5)
4. Define Dyslexia. Highlight interventions and support system for dyslexic child. (2+4+4)
5. A 3-year-old child is brought to the emergency room with a cyanotic spell. Describe its clinical presentation. Discuss its pathophysiology and management. (4+3+3)
6. Discuss clinical features and plan a management of typhoid fever. Add a note on types of typhoid vaccines. (3+3+4)
7. Discuss the medical and surgical management of emphysema thoracis. (6+4)
8. A 7-year-old child presents with hypertensive encephalopathy and high coloured urine. Discuss the differential diagnosis. Describe their management of post streptococcal glomerulonephritis in brief. (4+6)
9. A 4-year-old child presented with stray dog bite over the face. Classify category of dog bite. Formulate the management plan. Discuss pre and post exposure prophylaxis of rabies. (3+3+4)
10. Outline the etiopathogenesis of chronic diarrhea and organise a scheme of investigating for a child with chronic diarrhea. (5+5)

POST-GRADUATE DEGREE (M.D.) EXAMINATION – JANUARY 2025

Time: 3 Hours

Max. Marks: 100

PSYCHIATRY

PAPER – III

(Psychiatric Theory and psychiatric specialties)

Q.P. Code: 1251

Answers should be specific to the Questions asked.
Draw neat, labeled diagrams wherever necessary.
All questions are compulsory.

Question Number

Marks

LONG ESSAY QUESTIONS:

10 X 10 = 100

1. An eight-year-old boy is brought with complaints of poor scholastic performance, social withdrawal and limited language abilities. Discuss the diagnostic and management approach. (5+5)
2. A 32-year-old lady, a known case of Bipolar disorder, currently asymptomatic for many months has conceived recently. She is on Lithium Carbonate 800mg, Risperidone 10mg, Trihexyphenidyl 6mg, and Lorazepam 2mg. Discuss the further course of psychiatric management.
3. Enlist the drugs used in Opioid dependence. Explain mechanism of action of Buprenorphine, and rationale behind the usage of Buprenorphine, naloxone combination. (2+4+4)
4. Explain the pharmacological management of premature ejaculation and erectile dysfunction. (5+5)
5. Compare and contrast the antidepressant effects of ECT and Ketamine therapy.
6. Explain Contingency in Behavior Therapy and discuss Token economy with example. (5+5)
7. Summarise civil rights of mentally ill patients.
8. A 20-year-old college student from rural Bihar comes with complaints of passage of semen in urine, multiple pains and aches, generalized weakness and insomnia. Discuss the approach to the diagnosis and management. (4+6)
9. Explain basic principles of Medical Ethics and their role in Psychiatry. (5+5)
10. A 32-year-old male, a case of schizophrenia, tried to commit suicide by slitting his throat under the influence of hallucinations. Discuss the approach to suicide risk assessment and management in this case (5+5)

POST-GRADUATE DEGREE (M.D.) EXAMINATION – JANUARY 2025

Time: 3 Hours

Max. Marks: 100

RADIO-DIAGNOSIS

PAPER – III

(Genitourinary, retroperitoneum, musculoskeletal system, Obstetrics & Gynaecology)

Q.P. Code: 1255

Answers should be specific to the Questions asked.
Draw neat, labeled diagrams wherever necessary.
All questions are compulsory.

Question Number

Marks

LONG ESSAY QUESTIONS:

10 X 10 = 100

1. Enumerate the causes of acute pyelonephritis. Explain imaging modalities used in diagnosing acute pyelonephritis. Write note on xanthogranulomatous pyelonephritis. (3+4+3)
2. Describe in detail radiological imaging of acute pancreatitis and its complications. Discuss the role of CT in diagnosing pseudocyst of pancreas. (5+5)
3. A 40 years old female patient presented with complaints of vague right lumbar pain. A USG revealed a cystic lesion in the right kidney. She was advised to undergo a CT scan by the radiologist for further evaluation. Discuss the CT protocol & findings of the various causes of it. (5+5)
4. A 40-year-old woman undergoes MRI for suspected cervical cancer. The report describes a 2 cm mass in the cervix with parametrial invasion.
 - a. Analyze the MRI findings to determine the FIGO stage.
 - b. Evaluate the role of PET-CT in treatment planning of this case.(5+5)
5. A 30-year-old woman presents with pelvic pain. Ultrasound shows a 5 cm ovarian cyst. Discuss the appropriate imaging protocol for this case.
6. Enumerate the common locations of ectopic pregnancy and discuss the sonographic findings of ectopic pregnancy. (4+6)
7. Discuss in brief the imaging features of superior mesenteric artery syndrome. Discuss the role of interventional radiology in its treatment. (6+4)
8. Discuss the various color Doppler parameters used in Intrauterine Growth Restriction (IUGR) and briefly discuss their role in Intrauterine Growth Restriction (IUGR). (4+6)
9. Classify periosteal reactions. Enumerate the causes of periosteal reactions. Illustrate with diagrams various periosteal reactions. (2+4+4)
10. A 55-year-old male patient presents with painless hematuria. Discuss the imaging features and role of interventional radiology in two such pathologies (2+4+4)

POST-GRADUATE DEGREE (M.D.) EXAMINATION – JANUARY 2025

Time: 3 Hours

Max. Marks: 100

RESPIRATORY MEDICINE

PAPER – III

(Tuberculosis – Pulmonary and extra pulmonary, and General Medicine)

Q.P. Code: 1259

Answers should be specific to the Questions asked.
Draw neat, labeled diagrams wherever necessary.
All questions are compulsory.

Question Number

Marks

LONG ESSAY QUESTIONS:

10 X 10 = 100

1. Describe the fate of pulmonary tuberculosis in human beings and explain the importance of each. (6+4)
2. A 56-year-old male, presents with recurrent hemoptysis since 10 days. Patient however has no prodromal symptoms of TB. Only significant past history was chronic sinusitis since 1 year. On examination strawberry gums were present. On lab evaluation patient was diagnosed to have proteinuria and microscopic hematuria with declining renal function. Discuss the differential diagnosis and further management of this case. (5+5)
3. A known case of bronchial asthma with chronic sinusitis presented with history of loss of appetite, loss of weight, numbness of hands and feet. His TLC was raised and eosinophilia was present. Discuss the diagnosis, management and prognosis. (1+4+4+1)
4. Describe flail chest. Discuss in detail pulmonary function and respiratory mechanics in flail chest. Add a note on its treatment. (2+5+3)
5. Define SPN? Discuss various differential diagnosis of SPN. Write a note on doubling time and its clinical significance. (2+5+3)
6. Discuss in detail the role of theophylline's in management of obstructive airway diseases. Add a short note on its mechanism of actions and adverse effects. (6+2+2)
7. A 55-year-old male person wants to go for expedition in the Himalayas with height of 5000 feet above sea level. Discuss the precautions to be taken for such expedition. Write a short note on acute mountain sickness. (5+5)
8. A 16-year-old female comes with history of loss of weight and appetite since 3 months. She is having acute pain in abdomen since 15 days. On radiological examination, she was diagnosed to have significant mesenteric lymphadenitis with ileocecal thickening. Mention the diagnosis and its management. (5+5)
9. Discuss the pathogenesis, diagnosis and management of cystic fibrosis. (3+3+4)
10. Discuss all the pulmonary manifestations of cardiac disorders.

POST-GRADUATE DEGREE (M.S.) EXAMINATION – JANUARY 2025

Time: 3 Hours

Max. Marks: 100

**GENERAL SURGERY
PAPER – III**

Q.P. Code: 1263

Answers should be specific to the Questions asked.
Draw neat, labeled diagrams wherever necessary.
All questions are compulsory.

Question Number

Marks

LONG ESSAY QUESTIONS:

10 X 10 = 100

1. Describe the surgical anatomy of the adrenal glands. Describe the clinical features, investigations and management of Pheochromocytoma (2+3+3+2)
2. A 30-year-old male patient has undergone laparotomy for closure of Duodenal perforation. On the 5th post-operative day he develops high degree fever, tachycardia and loose stools. Describe how you will investigate and manage this patient (3+7)
3. Enumerate the complications of laparoscopic cholecystectomy. Write a note on Strasberg classification of bile duct injuries. Describe in brief the principles of management of Bile Duct injuries following lap chole. (3+2+5)
4. A 45-year-old lady presents to causality with signs of small bowel obstruction. She gives history of having undergone open sterilization 15 years ago. Describe how you will investigate and manage this patient. (4+6)
5. Define colostomy. What are the indications and types of colostomy? Write a note on complications of colostomy (2+3+2+3)
6. Enumerate the indications for liver transplant. Write a note on ideal donor and recipient for liver transplant. Add a note on cadaver transplant program in India (2+3+3+2)
7. Describe blood supply of Breast. Discuss the differential diagnosis, Investigations and Management of a 2 cm freely mobile lump in the right breast in a 23-year-old female. (2+2+3+3)
8. Define Gangrene. What are the different types of Gangrene. Write a note on indications, types and complications of lower limb amputation. Add a note on ideal amputation stump. (2+2+3+3)
9. What are the causes of retention of urine? A 75 year old male presents to hospital with retention of urine, describe how you will manage this patient (3+7)
10. Classify thermal injuries. Describe the management of 40 percent superficial burns in a 30 year old weighing 50 kgs. Add a note on medicolegal aspect of Burn injuries. (2+5+3)

POST-GRADUATE DEGREE (M.S.) EXAMINATION – JANUARY 2025

Time: 3 Hours

Max. Marks: 100

OBSTETRICS AND GYNAECOLOGY

PAPER – III

(Clinical Gynaecology)

Q.P. Code: 1267

Answers should be specific to the Questions asked.
Draw neat, labeled diagrams wherever necessary.
All questions are compulsory.

Question Number

Marks

LONG ESSAY QUESTIONS:

10 X 10 = 100

1. Mention important causes for AUB. Discuss the two conditions which cause the enlargement of uterus and add a brief note on management of any **one** of the **two**. (2+4+4)
2. A 34-year-old nulligravida comes to OPD with complains of mass per abdomen. On examination there is a solid mass of 28 weeks size in the midline. Ultrasound examination reveals a large intramural fibroid compressing the uterine cavity. Discuss the management modalities in this case.
3. A 28-year-old woman presents with persistent vaginal bleeding following evacuation of molar pregnancy. Her serum beta-hCG levels remain elevated on follow-up. Her ultrasound reveals multiple vascular masses in uterine cavity. What is the likely diagnosis based on the clinical presentation and imaging findings? Discuss the management of this patient. Write a note on Prognostic factors influencing the management. (2+5+3)
4. Discuss the Pharmacological and non-Pharmacological treatment options of dysmenorrhea. How does the approach to diagnosing and managing dysmenorrhea in adolescents differ from that in adult females? (2+2+3+3)
5. A 24-year-old woman is trying to conceive since 4 years and has irregular cycles since 2 years. On initial workup, serum prolactin was high. Discuss the etiology and management of this case. (5+5)
6. Discuss regarding PPIUCD. Add a note on failure rate. (8+2)
7. A 28-year-old P1L1 patient delivered by LSCS in view of obstructed labor 6 weeks back comes to OPD with complaints of passing stools per vaginum. What is the diagnosis of this case? Discuss the differential diagnosis and evaluation of this complication. Add a brief note on medicolegal implications. (1+3+3+3)
8. What are the various indications of hysterectomy? Enumerate different types of hysterectomy. Enumerate the various surgical steps of total abdominal hysterectomy. Add a brief note on ovarian conservation and rationale for prophylactic salpingectomy. (2+2+4+2)
9. Discuss the indications and contraindications of hysteroscopy. Add a note on fluid management during hysteroscopy. (5+5)
10. Discuss the principles of treatment for early-stage endometrial cancer. Compare the various treatment modalities available for advanced or recurrent endometrial cancer. Add a note on preventive strategies (3+3+4)

POST-GRADUATE DEGREE (M.S.) EXAMINATION – JANUARY 2025

Time: 3 Hours

Max. Marks: 100

OPHTHALMOLOGY

PAPER – III

*(Ocular immunology, neuro-ophthalmology, paediatric ophthalmology,
systemic ophthalmology and recent advances)*

Q.P. Code: 1271

Answers should be specific to the Questions asked.
Draw neat, labeled diagrams wherever necessary.
All questions are compulsory.

Question Number

Marks

LONG ESSAY QUESTIONS:

10 X 10 = 100

1. Classify esotropia. Discuss the clinical features and the plan of management of convergence excess esotropia in a 5-year-old child? (2+4+4)
2. Describe clinical features and management of Traumatic Optic Neuropathy. (5+5)
3. Enlist the ocular manifestation of AIDS. Discuss the clinical features and management of CMV retinitis. (4+3+3)
4. A 30-year-old male patient presents with unequal size of pupils. Discuss the causes, clinical features and management of anisocoria. (3+3+4)
5. Describe the ocular manifestations in Von-Hippel-Lindau Syndrome and discuss its management. (5+5)
6. Define scotoma. How do you differentiate between positive and negative scotoma? Discuss the approach to diagnosis in a patient presenting with bitemporal hemianopia. (2+3+5)
7. Discuss Phakic IOLs .
8. Describe the intraoperative and post-operative management of a unilateral congenital cataract in a 3 years child.
9. Discuss the newly available options for the management of Limbal stem cell deficiency.
10. A 60-year-old lady presents with on and off episodes of headache, jaw claudication and painful diminution of vision. Discuss the clinical features and management of this case. (5+5)

POST-GRADUATE DEGREE (M.S.) EXAMINATION – JANUARY 2025

Time: 3 Hours

Max. Marks: 100

ORTHOPAEDICS

PAPER – III
(General Orthopaedics)

Q.P. Code: 1275

Answers should be specific to the Questions asked.
Draw neat, labeled diagrams wherever necessary.
All questions are compulsory.

Question Number

Marks

LONG ESSAY QUESTIONS:

10 X 10 = 100

1. 55-year-old male patient presents with painless deformity of right ring finger. Describe etiopathology and clinical features of Dupuytren's contracture. Discuss its management (3+3+4)
2. What is Tardy Ulnar Nerve Palsy? Discuss its etiology and management. (2+3+5)
3. Describe various clinical tests to assess glenohumeral instability. Discuss the management of anterior dislocation of shoulder with Bankert lesion & Hill- Sachs lesion associated with dislocation. (4+6)
4. What is Fanconi's Syndrome? Enumerate the Deformities in Rickets. Discuss the investigations in a case of Renal Rickets. (2+4+4)
5. Describe Ganz approach to hip joint. Enumerate the indications of Ganz approach to hip joint. (5+5)
6. A 5-year-old child starts developing a progressive valgus deformity of tibia after an insignificant trauma to the knee. What are the possible causes & pathogenesis of such a deformity? Describe the management of this condition (5+5)
7. What is CTEV? Describe the patho-anatomy of the same. Describe surgical management of CTEV (2+3+5)
8. Classify nonunion. Describe Masquelet technique- its indications & steps in an infected nonunion. (3+7)
9. 25 years old female presents with swelling below the knee joint. What are the differential diagnosis? Classify Bone Tumours. Discuss management of Osteoclastoma of upper end of tibia in this patient. (2+3+5)
10. Classify pes planus. Describe its clinical features, investigations and management in a 8 years old boy presenting with pes planus (2+2+2+4)

POST-GRADUATE DEGREE (M.S.) EXAMINATION – JANUARY 2025

Time: 3 Hours

Max. Marks: 100

BIOCHEMISTRY (PAPER – III)

(Rhinology including recent advances)

Q.P. Code:

Answers should be specific to the Questions asked.

Draw neat, labeled diagrams wherever necessary.

All questions are compulsory.

Question Number

Marks

LONG ESSAY QUESTIONS:

10 X 10 = 100

1. A 46 years old male patient diagnosed with pulmonary tuberculosis and was on anti- tuberculosis drugs like rifampicin. Rifampicin inhibits transcription in Mycobacterium tuberculosis. (1+2+5+2)
 - a) How does Rifampicin inhibit bacterial transcription?
 - b) Name **TWO** transcription inhibitors each in Prokaryotes & Eukaryotes.
 - c) Discuss the process of transcription in Prokaryotes.
 - d) Enumerate Post-transcriptional modifications in eukaryotes.
2. Discuss Polymerase Chain Reaction (PCR) under the following headings. (2+2+1+5)
 - a) Principle of PCR.
 - b) Allele Specific and real time PCR.
 - c) Digital PCR.
 - d) Applications of these techniques in the clinical laboratory.
3. Discuss about Telomere, Telomerase and their role in health and disease. (2+2+6)
4. A 45-year-old male presents to the outpatient clinic with complaints of persistent abdominal pain, unexplained weight loss of 10 kg over the past three months, and jaundice. On physical examination, there is tenderness in the upper right quadrant of the abdomen and mild hepatomegaly. CBC showed mild anaemia, LFT revealed elevated Bilirubin and abnormally high Liver Enzymes. Ultrasound Abdomen revealed a 5 cm hypoechoic lesion in the liver. CT Abdomen revealed a single hepatic mass with irregular borders. Serum alpha-fetoprotein (AFP) was 850 ng/mL (Reference range: <10 ng/mL)
 - a). Interpret the clinical findings and investigations.
 - b) What is the likely diagnosis?
 - c) What is the role of AFP in this case?
 - d) Discuss its sensitivity and specificity as a tumor marker.
5. Explain the role of oncogenes and tumour suppressor genes in cancer development. Describe the Warburg effect and its significance in cancer biochemistry. (7+3)
6. Discuss the different metabolic alterations in Cancer cells. Add a note on tumour immunology. (6+4)
7. A 54-year-old presented to flu clinic at the peak of the COVID-19 pandemic with symptoms of cold, cough and fever from last 3 days. You are the medical officer posted on duty. On examination his oxygen saturation was at 88% and febrile. (2+3+3+2)
 - a) What is your probable diagnosis.
 - b) Which biochemical investigations is required for the confirmation
 - c) Discuss the steps involved in above molecular technique.
 - d) Compare and contrast rapid antigen testing with above molecular technique.
8. Discuss the functions of Major Histocompatibility Complex and add a note on the role in transplant rejection. (7+3)
9. Discuss in detail the toxic effects of heavy metal poisons like lead, mercury, aluminum and arsenic on human health (3+3+2+2)
10. A 52-year-old alcoholic male presented with severe pain in his wrists and right toe which was accompanied by inflammation and erythema of the joints. On investigation his serum uric acid level was > 10.5 mg/dL. (1+5+4)
 - a) What is the probable diagnosis?
 - b) Discuss the primary and secondary causes for the condition.
 - c) Discuss the treatment modalities and the rationale behind the same

POST-GRADUATE DEGREE (M.S.) EXAMINATION – JANUARY 2025

Time: 3 Hours

Max. Marks: 100

OTORHINOLARYNGOLOGY

PAPER – III

(Rhinology including recent advances)

Q.P. Code: 1279

Answers should be specific to the Questions asked.
Draw neat, labeled diagrams wherever necessary.
All questions are compulsory.

Question Number

Marks

LONG ESSAY QUESTIONS:

10 X 10 = 100

1. Discuss the differential diagnosis and the management of lateral swellings of the neck. (4+6)
2. A 60-year-old man, giving history of smoking **TWO** packets of cigarette for the past 40 years comes with the complain of hoarseness of voice for the past **THREE** months which is progressive, difficulty in breathing and choking sensation for past **TEN** days. What is the probable diagnosis? Describe the management of this case. (2+8)
3. Patient comes with the history of neck swelling of **SIX** months duration which is progressive in nature. Examination reveals a swelling in the midline of the neck which moves with deglutition and does not move with the protusion of the tongue, swelling is firm and well- defined. Patient does not give history of intolerance to cold ,change of voice or swelling over the feet .He also does not give history of palpitations , excessive sweating or intolerance to heat .What is the probable diagnosis? Discuss the management of this case. (2+8)
4. Describe the indications, procedure and complications of Rigid Esophagoscopy. (3+3+4)
5. Describe the etiology, clinical features and management of Erythroplakia of buccal mucosa. (3+3+4)
6. Describe the etiology, clinical features and management of Carcinoma of Buccal Mucosa with stage T1N0M0. (3+3+4)
7. Discuss the surgical management of Pleomorphic adenoma of parotid.
8. Explain the etiology, clinical features and management of Carcinoma of Lower 1/3rd of Esophagus. (3+3+4)
9. A 7 year child has come with high grade fever, hot potato voice along with odynophagia and breathlessness. What are the differential diagnosis for this clinical presentation? What are the steps to investigate and treat this case? (3+3+4)
10. A middle aged patient has come with high grade fever, painful swelling in the floor of the mouth extending to the submandibular region which is soft, tender and temperature over the swelling is increased. Patient also has caries of lower molar and pre molar teeth. What is the probable diagnosis? What steps should be taken to investigate and treat the patient? (2+4+4)
