

POST-GRADUATE DEGREE (M.D.) EXAMINATION – JULY 2023

Time: 3 Hours

Max. Marks: 100

PATHOLOGY

PAPER – I

(General Pathology including environmental pathology / pathophysiology / immunopathology with recent advances and applied pathology)

Q.P. Code: 1213

Answers should be specific to the Questions asked.

Draw neat, labeled diagrams wherever necessary.

All questions are compulsory.

Question Number	Marks
LONG ESSAY QUESTIONS:	2 X 20 = 40
1. Describe the etiopathogenesis and lab diagnosis of systemic lupus erythematosus.	
2. Explain oncogenes and its significance in oncogenesis.	(10+10)
SHORT ESSAY QUESTIONS:	6 X 10 = 60
3. Discuss anti-phospholipid syndrome.	
4. List growth factors in repair.	
5. Discuss Toll – like receptors (TLR).	
6. Describe morphology of transplant rejection and morphology of rejection reactions.	
7. Describe tumor suppressor genes and their mechanism.	
8. Discuss Apoptosis.	

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MICROBIOLOGY

PAPER – I

(General Microbiology and Immunology)

Q.P. Code: 1217

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

Question Number	Marks
LONG ESSAY QUESTIONS:	2 X 20 = 40
1. Define Hospital acquired infections. Discuss the role of microbiologist in the control of hospital infections with special reference to antibiotic policy.	(2+10+8)
2. Define Cytokines. Discuss the role of cytokines in immune response. Add a note on cytokines used in therapy.	(4+12+4)
SHORT ESSAY QUESTIONS:	6 X 10 = 60
3. Describe the principle and applications of Fluorescence microscope.	
4. Discuss Gaseous sterilization and its application in health care setting.	
5. Explain the microbiology of Bio Film and its implications.	
6. Describe Superantigens.	
7. Discuss Graft versus host reaction.	
8. Describe Complement deficiency disorders and laboratory methods for their diagnosis.	

POST-GRADUATE DEGREE (M.D.) EXAMINATION – JULY 2023

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PHARMACOLOGY

PAPER – I

(Basic and General Pharmacology including Bio-statistics, Toxicology)

Q.P. Code: 1221

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

Question Number

Marks

LONG ESSAY QUESTIONS:

2 X 20 = 40

1. Discuss the various methods to evaluate drugs in psycho-pharmacology.
2. Discuss the Pharmacovigilance Program of India (PVPI).

SHORT ESSAY QUESTIONS:

6 X 10 = 60

3. Explain the salient features of Phase “0” clinical trial.
4. Enumerate the various types of drug antagonism with suitable example.
5. Discuss the principles and applications of Radio-immunoassay.
6. Enumerate the salient features of kinetics of elimination with suitable example.
7. Enumerate the salient features of Student’s “t”-test.
8. Enumerate the salient features of clinical trial in vaccines.

POST-GRADUATE DEGREE (M.D.) EXAMINATION – JULY 2023

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FORENSIC MEDICINE
(Applied Basic Sciences)

PAPER – I

Q.P. Code: 1225

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

Question Number

Marks

LONG ESSAY QUESTIONS:

2 X 20 = 40

1. Describe blood supply to heart. How would you establish age of a myocardial infarction? (10+10)
2. A middle aged man having haematological malignancy was admitted to a hospital with anaemia and dyspnea and was given a blood transfusion. During the transfusion, he developed severe rigor and collapsed. The transfusion was stopped and resuscitation attempted, but he died after about 45 minutes. (10+10)
 - a) Identify the medico-legal issues involved.
 - b) Discuss the medico-legal investigation in order to arrive at conclusions in this case.

SHORT ESSAY QUESTIONS:

6 X 10 = 60

3. Discuss importance of femur in Forensic practice.
4. Describe pathophysiology of hypovolemic shock.
5. Enumerate age changes in pubic symphysis with diagram.
6. What are the autopsy findings in a case of death due to anaphylaxis?
7. Discuss macroscopic and microscopic appearance of the 'blast lung'.
8. What is the role of endocrine system contributing to cause sudden death?

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COMMUNITY MEDICINE

PAPER – I

(History of public health and community medicine, behavioral sciences and health, Information, education, communication and counseling, microbiology including parasitology and immunology, environmental health including entomology and ecology, general epidemiology, biostatistics and research methodology)

Q.P. Code: 1229

Answers should be specific to the Questions asked.

Draw neat, labeled diagrams wherever necessary.

All questions are compulsory.

Question Number

Marks

LONG ESSAY QUESTIONS:

2 X 20 = 40

1. Draft detail protocol of 'Randomized Control Trial' (RCT) for finding out efficacy of new covid-19 vaccine developed by a pharmaceutical company in India.
2. Enumerate diseases transmitted by faeco-oral route of transmission. Discuss planning for overall reduction of these diseases in a city of 10 lakh population in your district.

SHORT ESSAY QUESTIONS:

6 X 10 = 60

3. Describe air borne infection control measures in a TB ward.
4. Discuss about ROC (Receiver Operating Characteristic) curve and its significance.
5. Discuss about vectors of medical importance and their control measures.
6. Discuss concept of R naught (RO) and its significance in Public Health.
7. Discuss adult immunization.
8. Discuss social and behavior change communication (SBCC) with a suitable example.

POST-GRADUATE DEGREE (M.D.) EXAMINATION – JULY 2023

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ANAESTHESIOLOGY

PAPER – I

(Basic Science as applicable to Anaesthesia)

Q.P. Code: 1233

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

Question Number

Marks

LONG ESSAY QUESTIONS:

2 X 20 = 40

1. Describe neuromuscular junction with diagram. Describe acetylcholine synthesis, storage and release. Discuss in detail Rocuronium. (4+8+8)
2. Classify breathing system. Discuss in detail about low flow anaesthesia machine. (10+10)

SHORT ESSAY QUESTIONS:

6 X 10 = 60

3. Describe pressure reducing value and its importance in the anaesthesia machine.
4. Enumerate the contributions of Sir Robert Macintosh.
5. Enumerate the importance of concentration effect and second gas effect.
6. Discuss context sensitive half-life. Outline it's importance in daycare anaesthesia.
7. Venturi Principle and its application.
8. Bohr's effect and double Bohr effect and its implication.

POST-GRADUATE DEGREE (M.D.) EXAMINATION – JULY 2023

Time: 3 Hours

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DERMATOLOGY, VENEREOLOGY AND LEPROSY

PAPER – I

(Basic sciences as applied to Dermatology, Venereology and Leprosy)

Q.P. Code: 1237

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

Question Number

Marks

LONG ESSAY QUESTIONS:

2 X 20 = 40

1. Describe the embryology and structure of Pilosebaceous unit. Discuss the disorders involving the Pilosebaceous unit. (6+6+8)
2. Discuss about the normal cell kinetics and describe how it is involved in Psoriasis. (10+10)

SHORT ESSAY QUESTIONS:

6 X 10 = 60

3. Discuss about normal skin flora.
4. Write an account of Lagerhan's cell and enumerate the disorders involving it. (6+4)
5. Classify and describe Indices in Leprosy. (5+5)
6. Write about special stains used in dermatology.
7. HPV vaccines.
8. Write an account about Glomus body and write about Glomus tumor. (6+4)

POST-GRADUATE DEGREE (M.D.) EXAMINATION – JULY 2023

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GENERAL MEDICINE

PAPER – I

(Basic sciences, recent advances in medicine, nutrition and clinical pharmacology.
Emergency and critical care medicine, Geriatric medicine)

Q.P. Code: 1241

Answers should be specific to the Questions asked.

Draw neat, labeled diagrams wherever necessary.

All questions are compulsory.

Question Number

Marks

LONG ESSAY QUESTIONS:

2 X 20 = 40

1. Describe the diagnostic criteria, discuss aetiopathogenesis, enumerate clinical features & outline the management of obesity. (4+4+2+10)
2. Define monoclonal antibodies. Write the list of FDA-approved monoclonal antibodies, describe the mechanism of action, and discuss use of Rituximab in different clinical situation. (2+5+5+8)

SHORT ESSAY QUESTIONS:

6 X 10 = 60

3. Discuss the indications, types and challenges in Gene therapy. (3+3+4)
4. Define, discuss etiopathogenesis clinical features and outline the management of hyperkalemia. (2+3+3+2)
5. Enumerate indications discuss composition and complications of total parenteral nutrition. (3+3+4)
6. Discuss etiopathogenesis, enumerate clinical features and outline the management of angioedema. (3+3+4)
7. Discuss the mechanism of action, doses and monitoring of newer oral anticoagulant therapy. (3+4+3)
8. Discuss etiopathogenesis write classification, enumerate clinical features, investigations and outline the management of Haemolytic anaemia. (2+2+2+2+2+2)

POST-GRADUATE DEGREE (M.D.) EXAMINATION – JULY 2023

Time: 3 Hours

Max. Marks: 100

PAEDIATRICS
PAPER – I
(Fetal and Newborn)

Q.P. Code: 1245

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

Question Number

Marks

LONG ESSAY QUESTIONS:

2 X 20 = 40

1. Define Hypothermia in newborn. Discuss the clinical features, complications and management of Hypothermia. (5+15)
2. Describe normal sexual differentiation in foetus. Define intersex. Describe etiological classification of disorder of sex development. (6+2+12)

SHORT ESSAY QUESTIONS:

6 X 10 = 60

3. Diagnosis and management of persistent pulmonary hypertension.
4. Discuss care of newborn in delivery room.
5. Management of neonatal hypoglycemia.
6. Discuss the methods used for Fetal monitoring and their advantages.
7. Enumerate the risk factors, stages and prevention of Retinopathy of prematurity.
8. Clinical features and management of Congenital Hypothyroidism.

POST-GRADUATE DEGREE (M.D.) EXAMINATION – JULY 2023

Time: 3 Hours

Max. Marks: 100

PSYCHIATRY

PAPER – I

(Basic Sciences as related to Psychiatry)

Q.P. Code: 1249

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

Question Number

Marks

LONG ESSAY QUESTIONS:

2 X 20 = 40

1. Discuss functional circuitry of cerebral cortex and its relevance in psychiatry. (10+10)
2. Define classical & operant conditioning. Discuss application of learning theories in psychiatry. (4+16)

SHORT ESSAY QUESTIONS:

6 X 10 = 60

3. Validity to research instrument.
4. Write a note about Erik Erikson.
5. Neuropsychiatric implications of amino acid neurotransmitters.
6. Discuss Gene mapping in Psychiatry.
7. Anthropology in mental health.
8. Social deprivation syndrome.

POST-GRADUATE DEGREE (M.D.) EXAMINATION – JULY 2023

Time: 3 Hours

Max. Marks: 100

RADIO-DIAGNOSIS
PAPER – I
(Basic Sciences as applied to Radio-diagnosis)

Q.P. Code: 1253

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

Question Number	Marks
LONG ESSAY QUESTIONS:	2 X 20 = 40
1. Describe the principles and applications of Multidetector C. T. scan.	(10+10)
2. Explain the radiological anatomy of Breast with appropriate diagrams.	(10+10)
SHORT ESSAY QUESTIONS:	6 X 10 = 60
3. Explain principles of H.R.C.T.	
4. Types of contrast media in MRI.	
5. Principles of Tissue Harmonic Imaging.	
6. Limitations of TOF angiography in MRI.	
7. Discuss P.A.C.S. (Picture Achieving & Communication System).	
8. Explain Space-change compensation.	

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RESPIRATORY MEDICINE

PAPER – I

(Basic sciences including anatomy and physiology pertaining to respiratory system)

Q.P. Code: 1257

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

Question Number

Marks

LONG ESSAY QUESTIONS:

2 X 20 = 40

1. Discuss in detail the pulmonary defense mechanisms.
2. Discuss in detail the respiratory muscles and control of breathing. (10+10)

SHORT ESSAY QUESTIONS:

6 X 10 = 60

3. Compliance of the lung.
4. Adenosine deaminase.
5. Secondary pulmonary lobule.
6. Broncho-Alveolar Lavage (BAL).
7. Discuss clubbing.
8. 6- Minute walk test.

POST-GRADUATE DEGREE (M.S.) EXAMINATION – JULY 2023

Time: 3 Hours

Max. Marks: 100

GENERAL SURGERY
PAPER – I
(Basic Sciences)

Q.P. Code: 1261

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

Question Number

Marks

LONG ESSAY QUESTIONS:

2 X 20 = 40

1. Discuss the causes and preventive measures of Deep Vein Thrombosis (DVT). How will you manage a patient with acute lower limb DVT.
2. Indications, procedure & complications of grafts & flaps in Reconstructive Surgery. (10+10)

SHORT ESSAY QUESTIONS:

6 X 10 = 60

3. Clinical presentation & management of cutaneous malignancies.
4. Discuss the clinical evaluation and principles of treatment of the patient with diabetes mellitus with foot infection. What are the preventive measures of same?
5. Discuss enteral nutrition & total parenteral nutrition (TPN).
6. Role of minimal invasive methods in the treatment of varicose veins.
7. What are the predisposing factors and clinical features of Necrotizing Fasciitis? How would you manage such a case?
8. Discuss the methodology of preoperative risk assessment and role of optimization of patient for elective surgery.

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Max. Marks: 100

OBSTETRICS AND GYNAECOLOGY

PAPER – I

(Basic Sciences and medical genetics)

Q.P. Code: 1265

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

Question Number

Marks

LONG ESSAY QUESTIONS:

2 X 20 = 40

1. Discuss the anatomy and physiology of uteroplacental circulation. Discuss its clinical utility in obstetrics.
2. Discuss the physiology of spermatogenesis and significance of any one abnormality.

SHORT ESSAY QUESTIONS:

6 X 10 = 60

3. Screening for Down's syndrome.
4. Discuss the clinical presentation and treatment of Bartnolin's cyst.
5. Carbohydrates metabolism in pregnancy.
6. Role of progestogens in Obstetrics & Gynaecology.
7. Normal changes in Puerperium.
8. Role of USG in 1st trimester of pregnancy.

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OPHTHALMOLOGY

PAPER – I

*(Basic Sciences, optics and refraction, ocular motility and strabismus,
Ocular pharmacology, instrumentation and investigations in ophthalmology)*

Q.P. Code: 1269

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

Question Number

Marks

LONG ESSAY QUESTIONS:

2 X 20 = 40

1. Discuss the blood supply of the optic nerve head with a neat labeled diagram.
2. Describe Retinal adaptation to dark and light.

SHORT ESSAY QUESTIONS:

6 X 10 = 60

3. Discuss Amsler Grid.
4. Accommodation.
5. Describe Gonioscopy.
6. Discuss Nystagmus.
7. Discuss Amblyopia.
8. Microtropia.

POST-GRADUATE DEGREE (M.S.) EXAMINATION – JULY 2023

Time: 3 Hours

Max. Marks: 100

ORTHOPAEDICS

PAPER – I

(Basic and clinical sciences as applied to orthopaedics)

Q.P. Code: 1273

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

Question Number

Marks

LONG ESSAY QUESTIONS:

2 X 20 = 40

1. Describe the dietary sources and biochemical functions, deficiencies and manifestations of Vitamin C. (5+5+5+5)
2. Describe Calcium metabolism and describe the clinical features and management of Renal Rickets. (5+5+10)

SHORT ESSAY QUESTIONS:

6 X 10 = 60

3. Describe the clinical features & management of Myasthenia Gravis.
4. Discuss the applied anatomy of Iliopsoas muscle.
5. Discuss the clinical features and management of Actinomycosis.
6. Discuss the clinical features and management of Rheumatoid Arthritis.
7. Discuss the Albumin and Globulin ratio and its significance.
8. Classify bone tumors and its investigation.

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Max. Marks: 100

OTORHINOLARYNGOLOGY

PAPER – I
(Basic Sciences)

Q.P. Code: 1277

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

Question Number

Marks

LONG ESSAY QUESTIONS:

2 X 20 = 40

1. Describe the course of the Facial nerve within Temporal bone and enumerate the peroperative landmarks to identify the Facial nerve. (13+7)
2. Describe innervation of Larynx with diagram and describe in detail with physiology of speech. (10+10)

SHORT ESSAY QUESTIONS:

6 X 10 = 60

3. Describe the clinical anatomy of Infra-temporal fossa with diagrams.
4. Explain the clinical features and management of drug induced Sialadenitis.
5. Summarize the biochemical changes in high altitudes with clinical importance.
6. Discuss the clinical applications of corticosteroids in ENT.
7. Explain the chemical methods of sterilization applicable in ENT clinical practice.
8. Summarize histopathological features of inverted papilloma with diagram.
