

POST-GRADUATE DEGREE (M.D.) EXAMINATION – MAY 2022

Time: 3 Hours

Max. Marks: 100

ANATOMY

PAPER – I

(Gross Human Anatomy, General Anatomy and History of Anatomy)

Q.P. Code: 1201

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 gross anatomy of urinary bladder. Add a note on its applied anatomy.
2. Describe course, relations and branches of arch of aorta. Add a note on its development and applied anatomy.

SHORT ESSAY QUESTIONS:

6 X 10 = 60

3. Greater omentum.
4. Supination and pronation.
5. Medial longitudinal arch.
6. Cavernous sinus.
7. Synovial joints.
8. Andreas Vesalius.

POST-GRADUATE DEGREE (M.D.) EXAMINATION – MAY 2022

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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. Elaborate the pathogenesis and complications of obesity.
2. Classify and discuss hypersensitivity reactions.

SHORT ESSAY QUESTIONS:

6 X 10 = 60

3. Evolution of granuloma.
4. Discuss role of electron microscopy in diagnostic pathology.
5. Describe pathophysiology of septic shock.
6. Discuss angiogenesis in health and disease.
7. Endogenous pigments.
8. Discuss chemical carcinogenesis.

POST-GRADUATE DEGREE (M.D.) EXAMINATION – MAY 2022

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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. What are biofilms? Discuss their role in health care associated infections. (5+15)
2. Discuss different methods of Gene transfer in bacteria and their role in drug resistance. (10+10)

SHORT ESSAY QUESTIONS:

6 X 10 = 60

3. Describe MALDI-TOF MS.
4. Explain active immunity.
5. Describe laboratory bio-safety levels and classes of pathogens.
6. Describe Null cells.
7. Discuss various toxins associated with GIT infections.
8. Describe Type-I Hypersensitivity reactions.

POST-GRADUATE DEGREE (M.D.) EXAMINATION – MAY 2022

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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 salient features of Pharmacodynamics with suitable examples. Enumerate various tools used to study the mechanism of drug action.	(12+8)
2. Enumerate various parameters with suitable examples of pharmacokinetics that influence the selection of a drug in clinical practice. Add a note on bioavailability?	(15+5)
SHORT ESSAY QUESTIONS:	6 X 10 = 60
3. Enumerate the various bias that can occur during conduct of clinical trial.	
4. Discuss the salient features of transdermal route of drug delivery with suitable examples.	
5. Enumerate the importance of half-life of drugs with suitable examples in clinical practice.	
6. Discuss the salient features of Chi-square test and its importance in research and drug discovery.	
7. Enumerate the various chronic toxicity studies with suitable examples.	
8. Enumerate the salient features of therapeutic drug monitoring with suitable examples in clinical practice.	

POST-GRADUATE DEGREE (M.D.) EXAMINATION – MAY 2022

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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. Define hypothermia. What are the various physiological responses at various temperatures? What are the various pathological lesions encountered in a case of hypothermia? (5+5+10)
2. Classify allergies. Give various tests for allergies. What are its medico-legal implications? (5+7+8)

SHORT ESSAY QUESTIONS:

6 X 10 = 60

3. Write a note on acute radiation sickness.
4. Discuss systemic response to trauma.
5. Enumerate chromosomal study at autopsy tissues.
6. Write the types of hypoxia with medico-legal importance.
7. What are early markers of myocardial ischemia relevant to forensic pathology?
8. Describe the pathophysiology, autopsy appearances and the medico-legal issues of raised intracranial pressure.

POST-GRADUATE DEGREE (M.D.) EXAMINATION – MAY 2022

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COMMUNITY MEDICINE

PAPER – I

(History of public health and community medicine, behavioural sciences and health, information, education, communication and counseling, microbiology including entomology, parasitology and immunology, environmental health 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. Describe the concepts of 'causation' in epidemiology. Explain the process for determining if observed association is causal. Discuss critically the guidelines given for judging 'causal association'.
2. Define health education, IEC (Information, Education and Communication) and BCC (Behavioral Change Communication). Discuss the principles of Health Education. Describe the measures to overcome 'barriers of communication'.

SHORT ESSAY QUESTIONS:

6 X 10 = 60

3. Describe health hazards of rapid industrialization.
4. Describe 'Disinfection of a well' with a neat labelled diagram.
5. Discuss steps of Focus Group Discussion.
6. Define 'Human Development Index' (HDI). Outline the steps to estimate HDI.
7. Define probability based sampling? Discuss different methods of probability based sampling with examples.
8. Discuss global warming and public health.

POST-GRADUATE DEGREE (M.D.) EXAMINATION – MAY 2022

Time: 3 Hours

Max. Marks: 100

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 the anatomy and physiology of neuromuscular junction. Discuss the methods of monitoring neuromuscular block.
2. Describe the distribution of ventilation and perfusion. Evaluate the alterations in them that occur in paralyzed and mechanically ventilated patients. (8+12)

SHORT ESSAY QUESTIONS:

6 X 10 = 60

3. Explain the importance of pressure reducing valve in anaesthesia machine.
4. Write in brief the causes, prevention and treatment of post-spinal headache.
5. Describe the structure of various flow meters and relate its importance.
6. Temperature compensation in vaporizers.
7. Hypoxia prevention safety devices in anesthesia work station.
8. Use of TEE in anaesthesia practice.

POST-GRADUATE DEGREE (M.D.) EXAMINATION – MAY 2022

Time: 3 Hours

Max. Marks: 100

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. What is thermoregulation? Write about the role of skin in thermoregulation. (10+10)
2. Describe the structure and functions of dermo-epidermal junction (10=10)

SHORT ESSAY QUESTIONS:

6 X 10 = 60

3. Describe hair cycle with a neat diagram. (5+5)
4. Discuss cytokines in inflammation.
5. Discuss autologous serum skin test.
6. Write an account of pathogenesis of allergic contact dermatitis.
7. What is Tzanck smear? Write in detail where it is used. (5+5)
8. Write an account of dermal deposits and describe dermal mucinosis. (5+5)

POST-GRADUATE DEGREE (M.D.) EXAMINATION – MAY 2022

Time: 3 Hours

Max. Marks: 100

GENERAL MEDICINE

PAPER – I

(Basic sciences, current advances in genetics,
nutrition and clinical pharmacology)

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. Enumerate the structures associated with Basal Gaglia along with anatomy and physiology. Describe their functions and disorders associated with basal ganglia. Write a note on deep brain stimulation. (5+5+5+5)
2. Define ARDS. Discuss etiopathogenesis, clinical features and management of ARDS. Discuss role of mechanical ventilatory support in severe ARDS. (5+5+5+5)

SHORT ESSAY QUESTIONS:

6 X 10 = 60

3. Describe conduction system of heart. Classify Tachyarrhythmias and Bradyarrhythmias. (5+5)
4. Discuss role of Vit D in calcium metabolism. How to treat severe hypercalcemia. (5+5)
5. Discuss pharmacokinetics and pharmacodynamics of drugs along with one example each. (5+5)
6. Use of IV Immunoglobulins in clinical medicine.
7. Role of novel markers of heart failure in diagnosis and prognostics.
8. Discuss common causes of fall in elderly. What different steps can be taken to prevent the fall? (5+5)

POST-GRADUATE DEGREE (M.D.) EXAMINATION – MAY 2022

Time: 3 Hours

Max. Marks: 100

PAEDIATRICS
PAPER – I
(Fetus 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. Describe the pathophysiology of hypoxic brain injury in neonate and discuss the management.
2. Discuss the etiopathogenesis, clinical features and management of Respiratory Distress Syndrome in newborn.

SHORT ESSAY QUESTIONS:

6 X 10 = 60

3. Monitoring devices in NICU.
4. Discuss management of hypoglycemia in newborn.
5. Define Neonatal Mortality Rate (NMR) and enumerate the causes of NMR in India.
6. WHO classification of hypothermia in newborn and discuss management of each stage.
7. Describe the biophysical profile scoring.
8. Discuss types of breast milk.

POST-GRADUATE DEGREE (M.D.) EXAMINATION – MAY 2022

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. Draw and describe the anatomy of LIMBIC system also discuss in short limbic system and psychiatric disorders. (10+10)
2. Describe the theories of Learning and their significance in psychiatry. (10+10)

SHORT ESSAY QUESTIONS:

6 X 10 = 60

3. Describe blood brain barrier and its implications in psychopharmacology. (5+5)
4. Discuss psychological aspects of adoption.
5. Discuss and describe the contribution of Melanie Klein in psychiatry.
6. Discuss Bender Gestalt test.
7. Describe neurological soft signs.
8. Explain standard deviation.

POST-GRADUATE DEGREE (M.D.) EXAMINATION – MAY 2022

Time: 3 Hours

Max. Marks: 100

RADIO-DIAGNOSIS

PAPER – I

*(Basic Sciences as applied to Radio-diagnosis and
Basics of Ultrasound, CT, Nuclear Medicine and MRI)*

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. Discuss the radiological anatomy of retroperitoneal spaces and various aspects of imaging. (10+10)
2. Mention the physics of colour Doppler. Mention the various transducers used in sonography. (10+10)

SHORT ESSAY QUESTIONS:

6 X 10 = 60

3. Enumerate artefacts in ultrasound.
4. Classify liver segmental anatomy.
5. Describe Rare Earth Screens.
6. Explain digital radiography.
7. What is Anode Heel Effect?
8. Explain DICOM system.

POST-GRADUATE DEGREE (M.D.) EXAMINATION – MAY 2022

Time: 3 Hours

Max. Marks: 100

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 the various dynamic ventilatory functions and their clinical importance in respiratory disease. (10+10)
2. Describe physiology of pulmonary circulation and changes responsible for high altitude pulmonary oedema. (10+10)

SHORT ESSAY QUESTIONS:

6 X 10 = 60

3. What is flow volume loops? Write its types and clinical significance. (2+3+5)
4. What is Adenosine deaminase? How is it produced? What are its values and clinical significance? (2+2+1+5)
5. What is IgE and its clinical significance. (5+5)
6. What is pulmonary surfactant, discuss the formation and clinical significance of the same. (5+5)
7. What is Broncho-Alveolar Lavage (BAL)? How is it done and what is its composition and clinical significance. (3+2+2+3)
8. What is lung compliance and its clinical significance? (5+5)

POST-GRADUATE DEGREE (M.S.) EXAMINATION – MAY 2022

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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. Describe the biology of wound healing. Enumerate and discuss the factors responsible for poor wound healing. Mention the complications of wound healing. (12+6+2)
2. Describe the anatomy of venous system of the lower limbs. Discuss etiology clinical features and management of venous ulcer. (8+4+8)

SHORT ESSAY QUESTIONS:

6 X 10 = 60

3. Define surgical site infection. Describe the clinical features and management of surgical site infection. Write a brief note on strategies to prevent Surgical Site Infections (SSI). (5+3+2)
4. Enumerate the indications for split thickness skin grafting. Enumerate the clinical features and management of Superficial Soft Tissue Infections (SSTI). (5+2+3)
5. Enumerate and discuss the complications of blood transfusion. (5+5)
6. Enumerate and discuss in brief the various methods of providing enteral nutrition. (3+7)
7. Write in brief about universal precaution protocol to be followed in surgical practice.
8. Mention and discuss in brief the various imaging modalities used in investigating a patient with peripheral vascular disease.

POST-GRADUATE DEGREE (M.S.) EXAMINATION – MAY 2022

Time: 3 Hours

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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. Describe the anatomy of female ureter. What are the potential sites of ureteric injuries during gynecological operations and their management?	(5+5+10)
2. Describe physiology of lactation. Enumerate contraindications of breast feeding and methods of suppressing lactation.	(10+5+5)
SHORT ESSAY QUESTIONS:	6 X 10 = 60
3. Discuss the fetal circulation with a neat labeled diagram.	
4. Describe post coital test. Discuss the procedure and advantages of post coital test.	(3+4+3)
5. Discuss the lymphatic drainage of cervix with a neat labeled diagram.	(6+4)
6. What is emergency contraception? Discuss the mechanism of action of various emergency contraceptives.	(4+6)
7. Discuss the procedure of internal iliac ligation. Enumerate the various indications for internal iliac ligation. Add a note on risks associated.	(4+4+2)
8. Discuss the Bethesda classification of pap smear.	

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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. Describe surgical anatomy of extraocular muscles, blood supply, actions and laws of innervation. (8+4+8)
2. Discuss anatomy of visual pathway. Add a note on lesions of the same. (10+10)

SHORT ESSAY QUESTIONS:

6 X 10 = 60

3. Discuss histopathology of retinoblastoma add a note on genetic transmission. (6+4)
4. Analyze disassociated vertical deviation.
5. Principles and uses of impression cytology.
6. Enumerate ocular viruses and lesions caused by them. (5+5)
7. Discuss fundus fluorescein angiography in stages.
8. Note on sodium fluorescein dye.

POST-GRADUATE DEGREE (M.S.) EXAMINATION – MAY 2022

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 anatomy of Rotator Cuff and discuss clinical features and management of supraspinatus tear. (10+5+5)
2. Describe metabolism of Vitamin 'D' and discuss the management of renal rickets and Osteomalacia. (10+5+5)

SHORT ESSAY QUESTIONS:

6 X 10 = 60

3. Damage control orthopaedics.
4. Discuss vascular supply of adult femoral head.
5. Clinical features and management of Ankylosing spondylitis.
6. Describe osteoid osteoma.
7. Describe Ewing sarcoma.
8. Bone Biopsy.

POST-GRADUATE DEGREE (M.S.) EXAMINATION – MAY 2022

Time: 3 Hours

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. Discuss the applied anatomy of the nose with special reference to function of Olfaction. Discuss in detail the physiology of Olfaction.	(10+10)
2. Describe the applied anatomy of vestibular system and discuss the functional physiology of the balance system.	(10+10)
SHORT ESSAY QUESTIONS:	6 X 10 = 60
3. Describe the surgical anatomy of sphenoid sinus and its significance in pituitary tumors.	(5+5)
4. What are the manifestations of Xylocaine toxicity and how do you manage them.	(4+6)
5. What is the basic principle of gene therapy? Describe briefly somatic gene therapy in ENT.	(4+6)
6. Describe the anatomy of inferior constrictor muscle and its clinical significance.	(5+5)
7. Enumerate various radiosurgery techniques. Outline their principles and uses.	(5+5)
8. Describe the anatomy of Temporal bone in relation with Temporal bone fractures and its management.	(5+5)
