



Dr. D. Y. PATIL VIDYAPEETH, PUNE
(Deemed to be University)

**Syllabus for
PG Medical Specialties**

2014 - 15
(Amended / Revised upto July 2019)



Dr. D.Y. PATIL VIDYAPEETH, PUNE
(Deemed to be University)

(Re-accredited by NAAC with a CGPA of 3.62 on a four point scale at 'A' Grade)
(An ISO 9001 : 2015 Certified University)

Dr. A. N. Suryakar
Registrar

Ref. No. : DPU/875-vii/2019
Date : 11/09/2019

NOTIFICATION

Whereas in pursuance of the following decisions taken by the Board of Management, it is hereby notified to all concerned that the "Syllabus for PG Medical and Surgical Specialties – 2014-15" is revised upto July 2019 and hereby published.

- Changes in syllabus for UG and PG in General Medicine, Pulmonary Medicine and General Surgery vide Resolution No. BM-07-(iii)-4 dated 28th January, 2014.
- Updation in UG and PG syllabus of General Medicine, Obstetrics & Gynecology, Orthopedics, Anaesthesiology, ENT and Ophthalmology vide Resolution No. BM-04(i)-15, dated 31st March, 2015.
- Modifications in pattern of PG practical examinations for MD (General Medicine), MD (Pediatrics), MS (General Surgery), and MS (OBGY) vide Resolution No. BM-26(iv)-15, dated 29th December, 2015.
- Updation in PG syllabus in Radio-Diagnosis subject vide Resolution No. BM-26(vii)-15, dated 29th December, 2015.
- Introduction of Bioethical aspects in various chapters of all subjects vide Resolution No. BM-26(xi)-15, dated 29th December, 2015
- Partial Modifications in Pattern of PG Practical Examinations for MD (General Medicine) and MS (General Surgery) vide Resolution No. BM-17(vii)-16, dated 22nd September, 2016.
- Modifications in the syllabus of MD (Emergency Medicine) vide Resolution No. BM-35(iv)-18, dated 12th October, 2018.
- Changes in teaching and assessment of MS (Ophthalmology), vide Resolution No. BM-35(v)-18, dated 12th October, 2018.
- Changes in the practical examination pattern of M.S. (Orthopedics) vide Resolution No. BM-35(vi)-18, dated 12th October, 2018.
- Change in practical examination pattern of MD (Dermatology) vide Resolution No. BM-35(vii)-18, dated 12th October, 2018.
- Graduate Attributes, Programme Outcomes (POs), Course Outcomes (Cos) and gap analysis for all courses of UG and PG Programmes for Para-Clinical and Surgical Subjects vide Resolution No. BM-10(vii)-19 dated, 12th April, 2019.
- Interdisciplinary subjects (for Surgical Subjects) of M.B.B.S, M.D./M.S. and Super-specialty (D.M./M.Ch.) Programs under the Faculty of Medicine vide Resolution No. BM-10(viii) dated 12th April, 2019.
- Changes in syllabus of MD (General Medicine) and MD (Psychiatry) vide Resolution No. BM-27(iv)-19 dated 30th July, 2019.
- Modifications in MD (Respiratory Medicine) Practical examination pattern vide Resolution No. BM-27(vii)-19 dated 30th July, 2019.



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- Graduate Attributes, Programme Outcomes (POs), Course Outcomes (Cos) outcome analysis of Pos and Cos and mapping with objectives for all courses of UG and PG Programmes of Pre-Clinical and **Medicine Subjects** under the Faculty of Medicine vide **Resolution No. BM-27(x)-19 dated 30th July, 2019.**
- Interdisciplinary subjects (**for Medicine Subjects**) of M.B.B.S, M.D./M.S. and Super-specialty (D.M./M.Ch.) Programs under the Faculty of Medicine vide **Resolution No. BM-27(xi) dated 30th July, 2019.**

The **Syllabus for PG Medical and Surgical Specialties – 2014-15** is Revised upto July 2019 will be useful to all the concerned. This will come into force with immediate effect.



(Dr. A. N. Suryakar)
Registrar

Copy to:

1. PS to Chancellor for kind information of Hon'ble Chancellor, Dr. D. Y. Patil Vidyapeeth, Pune.
2. PS to Vice Chancellor for kind information of Hon'ble Vice Chancellor, Dr. D. Y. Patil Vidyapeeth, Pune.
3. The Dean, Dr. D. Y. Patil Medical College Hospital & Research Centre, Pimpri, Pune
4. The Controller of Examinations, Dr. D. Y. Patil Vidyapeeth, Pune.
5. Director (IQAC), Dr. D. Y. Patil Vidyapeeth, Pune.
6. Web Master for uploading on Website.

**MAPPING OF PROGRAMME OUTCOMES [POs] AND COURSE
OUTCOMES [COs] OF PG PROGRAMMES**

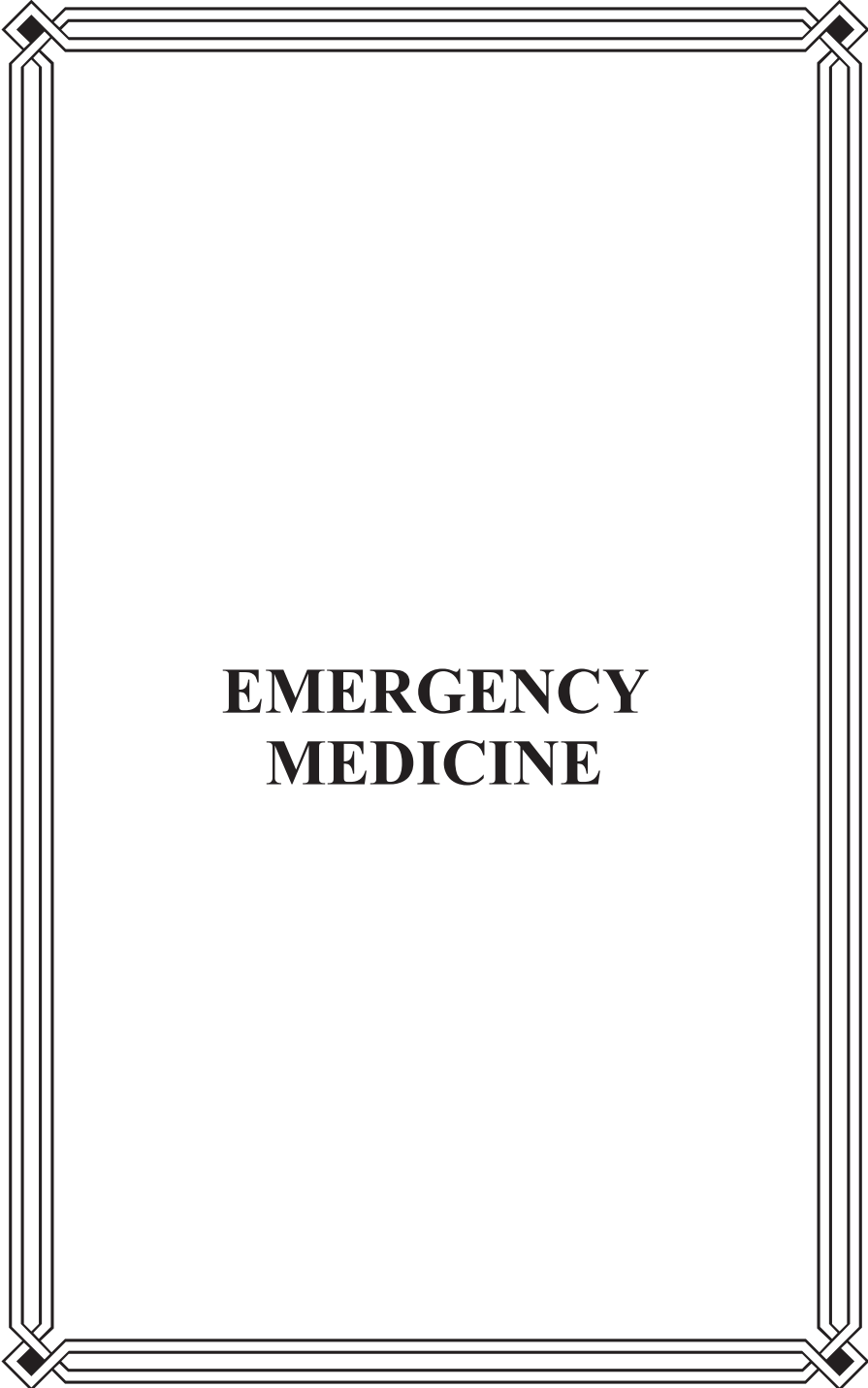
No.	By the end of the programme, the Postgraduate will have / be:
PO 1	Knowledge and Skills
PO 2	Planning and problem solving abilities
PO 3	Communication
PO 4	Research Aptitude
PO 5	Professionalism and Ethics
PO 6	Leadership
PO 7	Societal Responsibilities
PO 8	Environment and Sustainability
PO 9	Lifelong Learner

MD EMERGENCY MEDICINE PROGRAMME

Course Code	Course Title
PGM07	MD Emergency Medicine

Course 1 (Subject Code)

CO No.	At the end of the course, the learner should be able to :	Mapped Programme Outcomes
PGM07.1	Understand and implement the principles of triage to optimize the usage of departmental resources.	PO1,PO2, PO3, PO5, PO6, PO9
PGM07.2	Approach every case in a priority based manner and order appropriate and judicious investigations.	PO1,PO2,PO3,PO4,PO5, PO7,PO9
PGM07.3	Be an effective communicator for the purposes history taking and counseling.	PO1,PO2,PO3,PO5, PO6, PO7,PO9
PGM07.4	Diagnose and manage common health problems and emergencies at the individual, family and community levels keeping in mind the existing health care resources in the context of the prevailing socio-culture beliefs.	PO1,PO2,PO3, PO4,PO5, PO7,PO8,PO9
PGM07.5	Be up to date with the recent technological and therapeutic advances.	PO1,PO4,PO7, PO8,PO9
PGM07.6	Understand research methodology and scientific writing.	PO1, PO4, PO7, PO9
PGM07.7	Interact with other members of the public health care team and participate in the organization of health care services and implementation of pre hospital emergency care.	PO1,PO2,PO3, PO4,PO5, PO6, PO7,PO8,PO9
PGM07.8	Learn to be a part of a resuscitation team/ code blue team, both as member and leader.	PO1,PO2,PO3, PO4, PO5, PO6, PO9
PGM07.9	Be familiar with the response protocols to emergency codes/disaster scenarios and be able to effectively conduct mock drills.	PO1,PO2,PO3, PO4,PO5, PO6, PO7,PO8,PO9
PGM07.10	Be familiar with pre exposure and post exposure prophylaxis guidelines as per the institution.	PO1,PO2,PO7, PO9



EMERGENCY MEDICINE

EMERGENCY MEDICINE

INTRODUCTION

EM specialist is the first Doctor whom the patient meets on entering the hospital. The kind of care patient receives in the ER becomes the mirror of the quality of the service for the patient in the rest of the hospital. The EM specialist has to appreciate the importance of the Golden minutes and Golden Hour to minimize morbidity and mortality.

The EM specialist has to tackle

1. Acute problems
2. Mass Casualties
3. Agonized patients and relatives
4. Medico- legal issues

The patient spends first few minutes or hours only in the ER. The aim of this course is to train the Medical Graduate in the field of Emergency Medicine. Knowledge & practical skills shall be acquired by the candidates in various specialties so that the candidate will be competent & confident to manage all types of cases attending the Emergency room. He will be given special training of soft skills like -

1. Communication skill
2. Crowd management
3. Braking a bad news
4. Stress management for self & the patient's relatives
5. Management of Stressful situation
6. Social Problems

They should be well versed with all types of EM equipments. They will be trained in emergency ultrasound. They will be trained in basic research methodology so as to enable them to conduct fundamental & applied research. They will be trained in teaching methods so that they can take teaching assignments.

GOALS :

To transform the medical graduate into an all-rounder who can handle all kinds of emergencies effectively.

EDUCATIONAL OBJECTIVES :

To empower the EM student with knowledge, skill and tools required to handle the ER.

This will require

- Medical skills as well as
- Soft skills and
- Equipment handling

Soft Skills

- Cognitive and psychomotor skills
- Empathy
- Stress management for self as well as patient's relatives.
- Management of stressful situations
- Communication skills (e.g. Breaking bad news)
- Medico-Legal knowledge and skills
- Social skills.

CURRICULUM :

The curriculum is based on the primary text book of emergency medicine: A Comprehensive Study Guide 9th edition edited by J .E.Tintinalli. In addition, Rosen's Emergency Medicine Concepts and Clinical Practice. Clinical Procedures in emergency medicine by J.R.Roberts & Jerris Hedges will be used to teach the procedures in EM.

The core curriculum for 3-year postgraduate training program in Emergency Medicine.

- Cardiovascular Diseases
- Cardiopulmonary resuscitation
- Basic life support
(one and two-rescuer CPR)
- Advanced life support
- Recognition of cardiac rhythms during cardiac arrest
- Use of drugs
- Defibrillation
- Pacing
- Leadership during CPR
- Choking victim
- Neonatal/pediatric CPR

- CPR during pregnancy
- Chest pain
- Stable angina
- Acute coronary syndromes (unstable angina, ST-elevation and Non-ST-elevation myocardial infarction)
- Use of thrombolytics
- Use of glycoprotein inhibitors in ED
- Angioplasty vs. thrombolytics
- Pulmonary embolism
- Aortic dissection
- Congestive heart failure and pulmonary edema
- Palpitations
- Cardiac arrhythmias
- Tachyarrhythmias
- Narrow complex vs. broad complex
- Electric cardioversion
- Anti-arrhythmic drugs
- Bradyarrhythmias
- Hypertensive urgencies and emergencies
- Temporary and permanent cardiac pacemaker
- Shock
- Hemorrhagic shock
- Cardiogenic shock
- Neurogenic shock
- Septic shock
- Anaphylactic shock
- Blood/blood products
- Cardiovascular drugs
- Fluids
- Vasopressors
- Deep vein thrombosis
- Valvular heart diseases
- Stuck artificial cardiac valve
- Infective endocarditis
- Acute pericarditis and cardiac tamponade
- Acute myocarditis
- Acute rheumatic fever
- Vascular access
- Peripheral vascular disease
- Sudden cardiac death

- Cardiac transplant patient
- Airways management and
- Anesthesia
- Principle of airway management
- including difficult airway management
- Rapid sequence intubation
- Pain management
- Procedural sedation
- Regional, local and general anesthesia
- Ventilator management
- Trauma
- Trauma resuscitation
- Primary survey
- Secondary survey
- Advanced trauma life support
- Transfer arrangements
- Wound management:
- Lacerations
- Abrasions
- Contusion
- Puncture wounds
- Principles of management
- Control of local bleeding
- Suturing
- General
- Specific sites
- Local anesthesia
- Head and facial trauma
- Head injury
- Fractures of bones of face
- Facial injuries
- Dental injuries
- Nasal injuries
- Ear injuries
- Oral cavity injuries
- Temporomandibular joint dislocation
- Spinal trauma
- Immobilization
- Examination
- Cervical

- Dorsal
- Lumbar
- Chest trauma
- Blunt/penetrating
- Tension pneumothorax
- Cardiac tamponade
- Massive hemothorax
- Open chest wound
- Ruptured aorta
- Flail chest
- Contusion lung
- Emphysema
- Abdominal trauma
- Blunt/penetrating trauma
- FAST
- Diagnostic peritoneal lavage
- Ultrasound and CT
- Pelvic trauma
- Genitourinary trauma
- Pelvic fracture
- Extremity trauma
- Skeletal trauma (fractures)
- Dislocation
- Vascular trauma
- Soft tissue trauma (sprains and strains)
- Hand trauma
- Compartment syndrome
- Degloving injuries
- Amputation/replantation
- Fat embolism
- Trauma in children
- Trauma during pregnancy
- Trauma in elderly
- Blast injuries
- Mass casualties and injury care
- Respiratory emergencies
- Dyspnea
- Respiratory failure and ARDS
- Hemoptysis
- Acute severe asthma / COPD

- Pneumothorax
- Foreign body
- Pneumonia and chest infections
- Thermal/chemical injury to lungs
- Sleep apnea syndrome
- Gastrointestinal and Hepatic emergencies
- Abdominal pain
- Acute abdomen
- Acute gastritis
- Cholangitis, cholecystitis
- Acute pancreatitis
- Acute appendicitis
- Perforation/peritonitis
- Mesenteric ischemia
- Renal pain
- Intestinal obstruction
- Paralytic ileus
- Inflammatory bowel disease
- Vomiting and diarrhoea
- Evaluation of dehydration
- Fluid therapy
- Acute GI bleed
- Upper GI bleed
- Lower GI bleed
- Foreign body ingestion
- Acute volvulus
- Hemorrhoids
- Rectal prolapse
- Perirectal abscess
- Hernias
- Ascites
- Acute liver failure
- Cirrhosis and its complications
- Liver abscess
- Jaundice
- Liver transplant patient
- Onco-haematological emergencies
- Acute bleeding
(including hemophilia)
- Disseminated intravascular coagulation

- Use of antithrombotic and
- antiplatelet agents
- Febrile neutropenia
- Thrombocytopenia
- Severe anemia
- Acute hemolysis
- Superior vena cava syndrome
- Tumour lysis syndrome
- Cord compression
- Metastatic emergencies
- Blood/blood products and transfusion
- Stem cell and bone marrow transplantation
- Non-traumatic orthopedic emergencies
- Orthopedic and neurovascular examination of extremities
- Acute osteomyelitis
- Acute arthritis
- Acute gout
- Prosthesis-related emergencies
- Acute back pain
- Acute neck pain
- Acute shoulder pain
- Hand and foot infections
- Joint infections and inflammations
- Muscle and tendon infections and inflammation
- Genitourinary emergencies
- Nephrolithiasis
- Acute renal failure
- Acute retention of urine
- Sexual assault
- Complications of chronic kidney disease
- Hematuria
- Torsion of testis
- Sexually transmitted diseases
- Epididymitis/orchitis/ prostatitis
- Obstructive uropathy
- Acute pyelonephritis and perinephric abscess
- Phimosis and paraphimosis
- Foreign body insertion
- Kidney transplant patient
- Rheumatological emergencies

- Acute vasculitis
- Anti-phospholipid antibody syndrome
- Rheumatologic disorders involving vital organs
- Kawasaki's syndrome
- Ocular emergencies
- Red eye
- Conjunctivitis
- Acute glaucoma
- Uveitis
- Ocular emergencies (cont.)
- Trauma
- Foreign body
- Corneal abrasión
- Hyphema
- Blow-out fracture
- Chemical burns
- Visual loss/impairment
- Orbital cellulitis
- CNS emergencies
- Headache
- Approach
- Specific disorders (including migraine)
- Syncope, vertigo and dizziness
- Seizures
- Epileptic seizures
- Pseudoseizures
- Status epilepticus
- Coma and neurological impairment
- Metabolic coma
- Hypoglycemia
- Ketoacidosis
- Hyperosmolar coma
- Hepatic encephalopathy
- Neurological coma
- Meningitis and encephalitis
- Acute stroke
- Ischemic
- Hemorrhagic
- Transient ischemic attack

- Subarachnoid hemorrhage
- Cavernous sinus thrombosis
- Compressive and non-compressive
- myelopathies
- Peripheral neuropathy (including LGB
- syndrome)
- Myasthenic crisis
- Cranial nerve palsies
- Infections
- HIV in emergency department
- Malaria (complicated and
- uncomplicated)
- Leptospirosis
- Enteric fever
- Chicken pox and herpes zoster
- Measles/mumps
- Dengue and other hemorrhagic fevers
- Chikungunya
- Evaluation of fever in Emergency
- Department
- Acute hepatitis
- Disseminated tuberculosis
- Management of needlestick injury
- Tetanus
- Infections (cont.)
- Rabies
- Diphtheria/Pertussis
- Cholera
- Food poisoning
- Polio
- Plague
- Toxic shock syndrome
- Gas gangrene and other anerobic
- infections
- Sexually transmitted diseases
- Influenza
- Fever
- Immunization
- ENT emergencies
- Upper airway obstruction and stridor

- Epistaxis
- Acute tonsillitis/sore throat/acute
- laryngitis
- Foreign bodies
- Acute suppurative otitis media and
- externa
- Acute sinusitis
- Other infections
- Dermatological emergencies
- Exfoliative dermatitis
- Steven Johnson syndrome
- Toxic epidermal necrolysis
- Skin infections, inflammation and
- allergies
- Gynecology and Obstetrics
- emergencies
- Ectopic pregnancy
- Lower abdominal pain
- Vaginal bleeding
- Abortion
- Pre-eclampsia/Eclampsia
- Conduct of delivery
- Emergency contraception
- Rape victim
- Amniotic fluid embolism
- Pediatric emergencies
- Advanced pediatric life support
- Neonatal advanced life support
- Care of newborn
- Croup/epiglottitis
- Asthma
- Fever (neonate, young infant, older
- infant, child)
- Septicemia
- Meningitis
- Seizures
- Congenital heart diseases
- Non-cardiac congenital diseases
- Pediatric emergencies (cont.)
- Pain relief

- Dehydration
- Care of pre-term baby
- Drug therapy in newborns, infants and children
- Child abuse
- Drugs in pediatric emergencies
- Metabolic and Endocrine emergencies
- Diabetic emergencies:
- Hypoglycemia
- Hyperosmolar hyperglycemic state
- Ketoacidosis
- Fluid and electrolyte abnormalities
- Normal physiology
- Hypovolemia
- Hyper/Hyponatremia
- Hyper/hypokalemia
- Hyper/hypocalcemia
- Acid-base disturbances
- Hypopituitarism/Hypoadrenalism
- Thyrotoxic crisis and myxedema coma
- Acute toxicology
- Initial management
- Recognition of toxidromes
- Antidotes
- Insecticides and pesticides
- Drug overdose
- Snake bites, and scorpion and insect stings
- Plant poisoning
- Kerosene oil poisoning
- Ethyl alcohol poisoning and withdrawal
- Other alcohols (methyl alcohol, ethylene glycol)
- Methemoglobinemia
- Hyperthermia
- Substance abuse
- Hazardous chemicals
- Metal poisoning
- CBRN disasters

- Poison control centers
- Environmental emergencies
- Burns
- Smoke inhalation
- Lightning
- Electric burns
- High altitude illnesses
- Diving emergencies
- Cold-induced illnesses
- Heat-induced illnesses
- Near-drowning
- Animal and human bites
- Geriatric emergencies
- Psycho-social assessment
- Mobility assessment
- Drug pharmacology
- Geriatric abuse
- Psychiatric emergencies
- Thought and mood disorders
- Anxiety and somatiform disorders
- Self-harm
- Delirium, dementia and psychosis
- Suicide and homicide
- Alcohol and substance abuse
- IV drug abuse
- Sexual assault and child abuse
- Domestic violence and elder abuse
- Violence in the ED
- Disaster medicine
- Definitions
- Disaster planning
- Medical response to terrorist incidents
- Miscellaneous
- Pre-hospital care
- Forensic aspects
- Medico-legal examination
- Examination of rape accused
- Wound examination
- Bullet wounds
- Types of injuries (simple, grievous, dangerous)

- Signs of death
- Biostatistics
- Research methodology
- Imaging techniques:
- Plain x-rays
- Ultrasound & echocardiography
- CT
- MRI
- Angiography
- Interventional techniques
- Nuclear medicine in emergencies
- Ethical issues

PROCEDURAL SKILLS:

- Airway management and cervical spine control
- Wound management
- Wound preparation
- Wound closure techniques
- Debridement
- Dressing techniques
- Removal of foreign bodies
- Tendon repair
- Orthopedic emergency procedures
- Splinting/immobilization
- Spinal immobilization
- Limb splinting
- Logrolling
- Helmet removal
- Fasciotomy
- Reduction of dislocations
- Traction splints
- Plaster techniques for various fractures
- Joint aspiration
- Cervical collar application
- Pelvic stabilization techniques
- Local and regional anesthesia
- Conscious sedation and analgesia
- Ear, nose and throat procedures

- Indirect laryngoscopy
- Nasal packing
- Removal of foreign bodies
- Maxillo-facial techniques
- Dental anesthesia
- Dental socket suture
- Ocular techniques
- Slit lamp
- Foreign body removal
- Gynaecological and Obstetrics:
- Delivery
- Speculum examination
- Others
- Reducing paraphimosis
- Nasogastric tube insertion
- Incision and drainage of abscess
- Nerve blocks
- Detorsion of torsion of testis
- Transportation of patients
- Intra-hospital
- Inter-hospital
- Communication skills
- Patients and relatives
- Colleagues and other personnel
- Bereavement
- Ultrasonography and
- echocardiography (both diagnostic
- and therapeutic)
- Designing a research study
- Interpretation of laboratory
- investigations/plain X-rays/CT/MRI
- Major incident planning
- Basic airway management (opening
- airway by various methods)
- Bag mask ventilation
- Advanced airway management
- Tracheal intubation
- Alternative procedures (non-surgical
- and surgical)
- Pediatric airway management

- Neonatal airway management
- Cardiopulmonary resuscitation
- Basic
- Advanced
- Electric therapy
- Cardioversion/defibrillation
- Cardiac pacing
- ECG interpretation
- Ventilator management
- Basic trauma management and Advanced
- Trauma Life Support (non-Orthopedics)
- Intercostal chest tube
- Needle thoracentesis
- Surgical and needle cricothyroidotomy
- Suprapubic catheterization
- Central venous access
- Suture technique
- Arterial puncture
- Nasal packing
- Foreign body removal
- Foley's catheterization
- Needle and tube thoracotomy (in penetrating chest injuries) and aortic clamping
- Pulmonary procedures
- Invasive ventilation principles
- Thoracentesis
- Needle/tube thoracostomy
- Cardiovascular procedures
- Cardiac compression
- Central venous access
- Subclavian vein
- Jugular vein
- Femoral vein
- Arterial access
- Cut down techniques
- Intra-osseous access
- CVP monitoring
- Pericardiocentesis
- Monitoring
- Decontamination procedures

- Gastric lavage
- Skin/eye decontamination
- Paracentesis
- Neurological
- Lumbar puncture
- Burr hole

**LIST OF PROCEDURES ALONG WITH MINIMUM NUMBER
TO BE PERFORMED INDEPENDENTLY**

Procedure	Numbers to be performed independently
Airway management (opening airway by various methods)	100
Bag mask ventilation	100
Tracheal intubation	100
Alternative airway management methods (non-surgical and surgical)	25
Pediatric and neonatal airway management	35
Cardiopulmonary resuscitation	50
Cardioversion/defibrillation	40
Cardiac pacing	10
Ventilator management	50
Intercostal chest tube	10
Needle thoracentesis	10
Suprapubic catheterization	05
Central venous access	50
Suturing (various techniques)	100
Arterial puncture	100
Cut down	10
Intraosseous access	10
CVP monitoring	10
Ultrasound and echocardiogram	40 normal and 60 abnormal with various emergency conditions equally represented
Nasal packing	10
Foley's catheterization	50

Procedure	Numbers to be performed independently
Paracentesis	10
Pericardiocentesis	10
Wound care	100
Splint application for various fractures	100
Spinal immobilization	10
Reduction of dislocations	20
Plaster techniques for various fractures	50
Cervical collar application	10
Pelvic stabilization	05
Local and regional anesthesia	50
Conscious sedation and analgesia	10
Nerve blocks	10
Slit lamp examination	20
Delivery	10
Lumbar puncture	10
Burr hole	05
Reducing paraphimosis	05
Nasogastric tube insertion	50
Incision and drainage of abscess	50
Analysis of plain X-ray films	200
Analysis of CT scans	20

LECTURES :

Lecture 1:	Pre-Hospital care
Lecture 2 & 3:	Disaster Management
Lecture 4-8:	Resuscitation
Lecture 9-12:	Resuscitative Procedures
Lecture 13:	Analgesia Anesthesia Procedural Sedation
Lecture 14-15:	Wound management
Lecture 16-19:	CVS (Add a EKG Lecture : One hour More)
Lecture 20-23:	GI
Lecture 24-25:	Renal
Lecture 26-28:	OBG
Lecture 29-34:	Peads
Lecture 35-36:	ID
Lecture 37-40:	CNS
Lecture 41-48:	Tox
Lecture 49-53:	Environment
Lecture 54-55:	Endo
Lecture 56-58:	Heam Onc
Lecture 59-61:	ENT
Lecture 62-63:	Dermatology (Add Skin Pictures lecture: 1Hrs More)
Lecture 64-68:	Trauma (Add CT/MRI Lecture 1 Hrs. More)
Lecture 69-73:	Ortho (Add Xray Lecture: One Hour More)
Lecture 74-76:	MSK
Lecture 77-78:	Psyc
Lecture 79-80:	Abuse Assault Special Situations
Total lectures:	84/year

Minimum 2 per lectures/ week based on the above schedule. And at end of lectures 10 MCQ will be submitted to Residency Faculty to be put in bank. 12 Monthly Tests from Monthly lectures. 10 questions submitted from 8 lectures: 50 questions from that and give a test.

INTERDISCIPLINARY LECTURES FROM OTHER DEPARTMENT FACULTY

32 Exam Interdisciplinary Topics so that Standard Orders and Protocols can be built with other departments.

1.	ARDS: ICU
2.	Pediatric Sepsis: PICU
3.	Ventilation Strategies: Anesthesia
4.	Abdominal Compartment Syndrome: ICU
5.	Complex Metabolic Management: Anesthesia
6.	Complex ABG Management: Anesthesia
7.	Intracerebral Hemorrhage Traumatic V/S Non Traumatic: Neurosurgery
8.	Complex Management of Seizures in Peds and Adults: Neurology
9.	Eclampsia in Pregnancy: OB
10.	Aortic TAA/ TAD/ AAA Emergencies: CVTS
11.	Thrombolytic and Anticoagulation in Emergency Situations
12.	Priapism
13.	Exchange Transfusions in Peds and Adults: Hematology
14.	Management of Acute on Chronic Renal Failure in EM: Nephrology
15.	Hemorrhagic Fevers: IM
16.	Fever in Immunocompromised subjects: IM
17.	Right Ventricular Infraction: CCU
18.	Learning about Pacemaker and its emergencies: Cardiology
19.	Meningitis and its recognition and interpretation of LP :Traumatic v/s non traumatic in adults
20.	Meningitis and its recognition and interpretation of LP :Traumatic v/s non traumatic in adults
21.	Fractures which needs to go to OR Stat: Orthopedics
22.	Advances in Stroke: Neurology
23.	Rationale use of Antibiotics
24.	Bleeds in Hemophiliacs in Peds and Adults
25.	Vascular Trauma; Dissections (Other than aorta): CVTS
26.	Which Radiology Test what indication: CT / MRI
27.	Standard Orders in DKA HNKC
28.	Treating K/Ca/Na/Mag Disorders: Standard Orders
29.	Status Epilepticus
30.	Status Asthmaticus
31.	Documentation Pearls to avoid litigation
32.	High Risk EM REVIEW

PGP :

The schedule for Post Graduate Program includes

1. Once a week Seminar
2. Once a week Journal class
3. Once a week Clinicopathological correlation
4. Once a week Case presentation
5. Twice weekly lectures by faculty
6. Once a month Death Audit
7. Grand round once a week
8. Integrated teaching once in 3 months
9. Statistical Meeting once a month

ROTATION :

Year I : Emergency Department: 7 months
Orthopedic & wound care: 2wks
PSM – 2 weeks
SICU - 1 month
MICU-1 month
Ophthalmology/ENT- 2wks/2wks
Anaesthesia-1 month

Year II : Emergency Department: 7 months
OBG – 1 month
Pediatric ward – 2 weeks
Psychiatry – 2 wks
PICU- 1 month
Neurology/Nephrology- 2 weeks each
Pediatric EM: 1 month
Neurosurgery – 2 weeks

Year III : Emergency Department: 7 months
Trauma - 1 month
Dermatology – 1 month
FMT – 2 weeks
Radiology & Ultrasound- 2 wks
Administration (EM Services)-1 month
Elective- 1 month

GOALS OF ROTATION

ANESTHESIA :

- Develop airway management skills
- Develop familiarity with pharmacological agents used in anesthesia
- Learn standard monitoring techniques
- Learn ventilator management
- Learn relevant pre-operative historical and physical exam considerations
- Learn principles of pain management.

EMERGENCY MEDICINE :

Develop the ability to rapidly evaluate, diagnose, stabilize, and disposition of critically ill patients.

- Learn respiratory, cardiovascular, renal and neurologic physiology and the pathophysiology of trauma, toxins, shock, sepsis, cardiac failure, and respiratory failure that affect critically ill patients.
- Learn the principles of medical instrumentation and hemodynamic monitoring and be able to utilize them in the care of critically ill patients.
- Learn the indications and develop the technical skills needed to perform diagnostic and therapeutic interventions in critically ill patients.
- Learn the rational use of laboratory, radiographic and other diagnostic tests in the management of critically ill patients.
- Understand the etiologies and pathophysiology of cardiac arrest.
- Learn to recognize the dysrhythmias associated with cardiac arrest and their treatment.
- Learn the American Heart Association (AHA) recommendations and develop skill in the performance of standard resuscitative procedures.
- Learn the principles of pharmacotherapy and the routes and dosages of drugs recommended during cardiac arrest and following resuscitation.
- Learn the indications for withholding and terminating resuscitation.

- Learn common organizational structures of emergency medical services.
- Learn the pathophysiology, patient evaluation and management of thermal and chemical burns.
- Learn the pathophysiology, patient evaluation and management of electrical injury, including lightning injury.
- Learn the pathophysiology, patient evaluation and management of radiation injuries.
- Learn the pathophysiology, patient evaluation and management of hypothermia and frostbite.
- Learn the pathophysiology, patient evaluation and management of heat illness.
- Learn the pathophysiology, patient evaluation and management of drowning and near-drowning.
- Learn the pathophysiology, patient evaluation and management of high altitude illness.
- Learn basic ethical principles relevant to emergency medicine.
- Learn basic legal principles relevant to emergency medicine.
- Learn the overall principles of managing the geriatric patient in an emergency care environment.
- Learn basic statistics and research methodologies
- Learn the presenting signs, symptoms, laboratory findings, pathophysiology and treatment of common therapeutic drug poisonings, drugs of abuse, natural toxins, and general household poisons as delineated in the core curriculum of Emergency Medicine
- Learn the common hazardous materials (HAZMAT) of the workplace and prehospital operations with regard to HAZMAT incidents.
- Learn use of the diagnostic imaging modalities available for the evaluation of orthopedic disorders.
- Develop skill in the diagnosis and treatment of inflammatory and infectious disorders of the musculoskeletal system.

- Learn principles of acute and chronic pain management in patients with musculoskeletal disorders.
- Master the understanding of the components of the immune system, and the disorders of hyper and hypofunction of the immune system.
- Know the major systemic infectious disorders, their diagnosis and treatment.
- Develop knowledge of the etiologies, manifestations, and treatment of endocrine and metabolic disorders.
- Develop familiarity with common general surgical disorders presenting to Emergency, and develop relevant history and physical exam skills.
- Develop procedural skills relevant to general surgery.
- Learn indications for consultation and surgical intervention in patients with acute abdominal pain.
- Learn the principles of trauma management including ATLS.
- Learn how CSF shunts function and learn to evaluate patients with possible shunt malfunction.

DERMATOLOGY

- Develop ability to recognize and appropriately treat disorders of the skin and mucous membranes.

FORENSIC MEDICINE

- Learn basic principles of medico-legal cases
- Learn various types of wounds
- Learn medico-legal aspects of gunshot wounds
- Learn preservation of various samples for medico-legal purpose.

GENERAL MEDICINE

- Assimilate general concepts of Internal Medicine, history taking and physical examination skills to develop a systematic evaluation for patients presenting to the emergency department.
- Learn the pathophysiology, presentation, and management of diseases related to the alimentary tract.

- Develop knowledge of the pathophysiology, presentation, and management of common hematologic diseases.
- Master the understanding of the components of the immune system, and the disorders of hyper- and hypofunction of the immune system.
- Know the major systemic infectious disorders, their diagnosis and treatment.
- Learn the pathophysiology, evaluation, and treatment of renal disorders.
- Develop knowledge of the etiologies, manifestations, and treatment of endocrine and metabolic disorders.
- Master the understanding of the diseases of the respiratory system, including pathophysiology, evaluation, and treatment.
- Learn management of upper and lower gastrointestinal bleed
- Learn management of acute hepatic failure
- Learn management of complications of cirrhosis
- Learn about acid-base and electrolyte disturbances
- Perform peritoneal dialysis
- Learn about complications of dialysis and renal failure
- Demonstrate the ability to stabilize patients who present in cardiopulmonary arrest.
- Develop skills in the evaluation of patients who present with chest pain.
- Demonstrate the ability to evaluate, stabilize, treat, and arrange for appropriate disposition of patients with cardiac disease processes.
- Demonstrate the ability to develop a differential diagnosis for patients presenting with cardiac symptomatology (chest pain, shortness of breath, weakness, palpitations), etc.
- Demonstrate skill in the interpretation of diagnostic modalities (ECG, chest x-ray and cardiac ultrasonography).
- Develop familiarity with cardiac pharmacologic agents.

- Demonstrate skill at cardiac related procedures: venous line and CVP pressure monitoring, pericardiocentesis, defibrillation and cardioversion, Swan Ganz catheterization, and ultrasonography.
- Demonstrate the ability to diagnose, stabilize, and apply thrombolytic therapy to patients presenting with acute myocardial infarction.
- Learn the anatomy, pathophysiology, presentation, and management of common nervous system disorders.
- Develop skill in the performance of a screening and detailed neurological evaluation.
- Develop skill in the use and performance of diagnostic procedures in the evaluation of neurological disorders.

GENERAL SURGERY INCLUDING TRAUMA

- Develop familiarity with common general surgical disorders.
- Develop relevant history and physical examination skills.
- Develop procedural skills relevant to general surgery.
- Develop skill in the overall assessment of the general surgical patient.
- Learn indications for consultation and surgical intervention in patients with acute abdominal pain.
- Learn the principles of care of the preoperative patient.
- Learn the anatomy, pathophysiology, presentation, and management of common nervous system injuries.
- Develop skill in the performance of screening and detailed neurological evaluation.
- Develop skill in the use and performance of diagnostic procedures in the evaluation of neurological injuries.
- Effectively utilize radiologic studies to diagnose neurological injuries.
- Diagnose, stabilize and provide initial treatment of injuries of the brain, spinal cord, bony spine and peripheral nerves.

- Learn how CSF shunts function and learn to evaluate patients with possible shunt malfunction.
- Learn about special aspects of trauma in children
- Learn surgical emergencies in children
- Learn the relevant history and physical examination skills.
- Learn the use of diagnostic imaging modalities available for the evaluation of urologic disorders.
- Learn the diagnosis and management of urinary tract infections, including pyelonephritis and prostatitis.
- Learn the diagnosis and management of renal calculi.
- Learn the evaluation and management of renal and genitourinary trauma.
- Learn the diagnosis and management of disorders of the male genitalia.

OBSTETRICS/GYNECOLOGY

- Learn the principles of contraception.
- Develop expertise in the diagnosis and management of emergent complications of pregnancy.
- Develop expertise in the management of uncomplicated and complicated labor and delivery.
- Develop expertise in the management of sexual assault.
- Learn the principles of management of gynecologic and obstetrical trauma.
- Learn diagnosis and treatment of genital and pelvic infectious diseases.
- Develop expertise in the diagnosis and management of abdominal pain in females.
- Develop expertise in the diagnosis and management of vaginal bleeding.

OPHTHALMOLOGY :

Develop relevant history and physical examination skills -

- Learn to recognize and treat emergent causes of visual loss
- Learn the principles of ocular trauma management
- Learn the evaluation and management of common ophthalmologic complaints.

ORTHOPEDICS :

- Develop relevant history and physical examination skills.
- Learn use of the diagnostic imaging modalities available for the evaluation of orthopedic disorders.
- Develop skill in the evaluation and management of musculoskeletal trauma.
- Develop skill in the diagnosis and treatment of inflammatory and infectious disorders of the musculoskeletal system.
- Learn principles of acute and chronic pain management in patients with musculoskeletal disorders.
- Learn principles trauma care.
- Develop an organized approach to the assessment, resuscitation, stabilization and provision of definitive care for the trauma victim.
- Learn use of the diagnostic imaging modalities available for evaluation of the trauma victim.
- Develop procedural skills necessary in the evaluation and management of the trauma victim.
- Learn to recognize and treat immediate life and limb threatening injuries in the trauma victim.
- Learn special considerations in the evaluation and management of the pregnant trauma victim.
- Learn special considerations in the evaluation and management of the pediatric trauma victim.
- Learn special considerations in the evaluation and management of the geriatric trauma victim.

- Learn the principles of disaster management
- Learn how to manage fractures, reduce dislocations and learn the splint and plaster techniques

OTOLARYNGOLOGY

- Develop relevant history and physical examination skills.
- Learn the evaluation and management of common problems of the head and neck.
- Learn the evaluation and management of facial trauma.
- Develop skill in the evaluation and management of upper airway disorders.
- Learn use of the diagnostic imaging modalities available for evaluation of head and neck disorders.

PEDIATRICS

- Develop skill in infant/pediatric resuscitation.
- Develop skill in performance of appropriate pediatric history and physical examination, including general growth and development, assessment and knowledge of current immunization requirements.
- Learn the etiologies, significance, and treatment of fever and infection in the child.
- Learn the manifestations and significance of abdominal related complaints in the child.
- Learn the etiologies and treatment of neurologic emergencies in the child.
- Learn the physiology and management of derangements of fluid and electrolyte in children.
- Learn the indications of social and/or psychological disturbances.
- Learn the specific problems of pediatric trauma victims.
- Learn the manifestations and treatment of pediatric cardiac abnormalities.
- Learn the pathophysiology, etiologies, and treatment of respiratory disorders of children.

- Learn the pathophysiology, etiologies, and treatment of common serious endocrine and hematologic disorders of children.
- Learn the pathophysiology, etiologies, and treatment of common serious gynecologic and urologic conditions of children.
- Learn to recognize and provide appropriate treatment for orthopedic and soft tissue problems of childhood.
- Learn the common dermatologic diseases and dermatologic manifestations of systemic diseases in children.
- Learn to recognize and treat children with common and/or serious problems of the head and neck.

PSYCHIATRY

- Develop familiarity with common psychotherapeutic agents.
- Learn relevant interviewing techniques to deal with patients with various psychiatric disorders.
- Learn principles of managing the violent patient.

RADIOLOGY

- Learn all the possible presentations of injuries and clinical conditions with their related radiological findings in CT Scan, X-Ray and MRI, Ultrasound, etc.

ELECTIVE

Upgrade any area of deficient expertise

COMMUNITY MEDICINE –

- Learn management of emergencies in the community setting

COMPETENCIES TO BE ATTAINED BY THE END OF 3 YEARS

By the end of their first year, emergency medicine residents will:

1. Demonstrate the ability to provide appropriate care to patients with non-emergent problems:
 - a. Obtain an accurate and complete clinical and psychosocial history and perform a comprehensive physical examination
 - b. Develop appropriate differential diagnoses
 - c. Know the available investigative and therapeutic options
 - d. After review, implement an appropriate investigative and therapeutic plan
 - e. Develop and, after review, implement an appropriate written and verbal discharge plan
 - f. Demonstrate an awareness of the available information systems to support patient care and discharge planning
 - g. Demonstrate competency (including an understanding of the indications, contraindications, and techniques) in the core procedures used on nonemergent patients (eg, laceration repair, reduction in or immobilization of extremity
 - h. injury, pelvic examination, slit-lamp examination)
 - i. Demonstrate an understanding of the concepts of disease prevention as it
 - j. applies to emergency medicine
 - k. Properly document all historical, physical examination, and diagnostic test findings
2. Demonstrate a level-appropriate knowledge of the biochemical, clinical, epidemiologic, and social-behavioural basis of diseases seen in the emergency department:
 - a. Demonstrate a basic understanding of the principles of evidence-based medicine
 - b. Demonstrate mastery of minor acute and nonemergent conditions

- c. Demonstrate mastery of the principles of ACLS and ATLS
 - d. PALS and NALS (paediatric advanced life support and neonate advanced life support)
 - d. Demonstrate a level-appropriate understanding of the core curriculum
- 3. Demonstrate the ability to appraise and assimilate scientific evidence and analyze and improve their own practice:
 - a. Demonstrate the ability to critically assess their competency in managing minor acute and on emergent cases
 - b. Demonstrate the ability to apply published studies to their own practice
 - c. Demonstrate the ability to use available information technology appropriate to the care of their patients
- 4. Demonstrate effective interpersonal and communication skills with:
 - a. Patients and their families
 - b. Other physicians
 - c. Other health care providers
- 5. Demonstrate the professionalism required of a physician:
 - a. Accept responsibility for continuity of patient care
 - b. Demonstrate respect for patients' privacy and autonomy
 - c. Demonstrate sensitivity and responsiveness to patients' culture, age, gender, and disabilities
 - d. Demonstrate a commitment to sound ethical principles regarding the care of patients
 - e. Demonstrate respect for the dignity of patients and colleagues as persons
- 6. Demonstrate a basic understanding of the role of the emergency department in the larger context of health care delivery:
 - a. Demonstrate an understanding of the principles of a cost-benefit analysis
 - b. Know the relative costs of the various tests and treatment contemplated

- c. Serve as an advocate for the patient in their dealing with the complexities of the health care system, specifically with regard to appropriate referral and followup

By the end of their second year, residents will, in addition to the objectives achieved during the first year:

1. Demonstrate the ability to provide appropriate care to patients with emergent and life threatening conditions:
 - a. Obtain an appropriately focused history and perform an appropriately focused physical examination
 - b. Develop comprehensive differential diagnoses
 - c. Develop an investigative and therapeutic plan
 - d. Develop and, after review, implement an appropriate written and verbal discharge plan
 - e. Demonstrate competency (including an understanding of the indications, contraindications, and techniques) in the core procedures used on patients with emergent and life-threatening conditions (eg, endotracheal intubation, tube thoracostomy, defibrillation / cardioversion, etc.)
2. Demonstrate a level-appropriate knowledge of the biochemical, clinical, epidemiologic, and social - behavioural basis of diseases seen in the emergency department:
 - a. Apply the principles of evidence-based medicine
 - b. Demonstrate mastery of the emergent and life-threatening conditions that present to the emergency department
 - c. Demonstrate a level-appropriate understanding of the core
3. Demonstrate the ability to appraise and assimilate scientific evidence and analyze and improve their own practice:
 - a. Demonstrate the ability to critically assess their competency in managing the emergent and life-threatening conditions that present to the emergency department
 - b. Use published studies to improve their own practice
 - c. Use available information technology appropriate to the care of their patients

4. Demonstrate a level-appropriate understanding of the role of the emergency department in the larger context of health care delivery:
 - a. Demonstrate the ability to divide his or her time and energies appropriately to provide optimal care for several patients concurrently
 - b. Develop plans for evaluation and treatment that, without compromising patient care, acknowledge the patient's particular health care system

By the end of their third year, residents will, in addition to the objectives achieved during the first 2 years:

1. Demonstrate the ability to provide appropriate care to patients
 - a. Listen to a history and physical examination presentation from a junior resident and provide appropriate feedback and guidance
 - b. Perform an appropriately focused history and physical examination, taking into consideration the previous evaluation of the junior resident
 - c. Implement an appropriate investigative and therapeutic plan
 - d. Implement an appropriate written and verbal discharge plan
 - e. Demonstrate understanding of the indications, contraindications, and techniques in uncommonly performed but lifesaving procedures (eg, cricothyroidotomy, burr craniotomy) and mastery of all other core procedures
 - f. Demonstrate an understanding of documentation as it applies to billing and reimbursement requirements
2. Demonstrate a level-appropriate knowledge of the biochemical, clinical, epidemiologic, and social-behavioural basis of diseases seen in the emergency department:
 - a. Demonstrate mastery of all conditions that commonly present to the emergency department
 - b. Teach courses such as ACLS as a certified instructor
 - c. Demonstrate an understanding of the core curriculum

3. Facilitate the learning of others
 - a. Teach and appropriately supervise medical students and junior residents
4. Demonstrate an understanding of the role of the emergency department in the larger context of health care delivery
 - a. Triage patients and direct the attention of junior-level residents so as to provide optimal care for all patients in the emergency department.
 - b. Plan and participate in a mass-casualty disaster drill

PROGRESS REPORT FORMAT

Dr. D. Y. Patil Medical College, Hospital & Research Centre
(A constituent college of Dr. D. Y. Patil Vidyapeeth)
(Deemed University) Pimpri, Pune - 411018.

Term-wise Progress Report of Post Graduate Residents

Department of : _____

Part – I (Students Profile)

1. Name of P. G. Resident : _____
2. Name of the PG Course : _____
3. Year of admission : _____
4. Term : From _____ to _____
5. Dissertation Topic : _____
(for Degree Course Only) : _____

6. Name of P.G. Guide : _____
7. Name of the H.O.D. : _____
8. Leave availed during the period : _____
9. Total percentage of attendance : _____

Part – II

Assessment according to Clinical / Academic Performance

Grading : A - Above 80%
 B - 60% to 80%
 C - 50% to 59%
 D - Less than 50%

(1) CLINICAL PERFORMANCE (Grading):

(i) O.P.D. Work : _____

(ii) Ward Work : _____

(iii) O.T. Work : _____

(iv) Other : _____

(2) PROGRESS OF DISSERTATION (Wherever applicable) :

(3) ACADEMIC PERFORMANCE:

(i) Written Tests:-

Date	Marks obtained

(ii) *Seminar/Symposia:-

Date	Topic	Evaluation

(iii) * Case Presentation:-

Date	Topic	Evaluation

(iv) * Journal Club:-

Date	Topic	Evaluation

(v) Practical / Viva :-

Date	Marks obtained

(vi) *Microteaching:-

Date	Topic	Evaluation

(*May be assessed on a scale of 1 to 10)

(4) Papers/Posters Presented :-

Sr. No.	Title of Presentation	Paper/ Poster	Event	Month/ Year	Venue

Overall Grading: _____

Part – III

Remarks of Post-Graduate Guide

Certified that Dr. _____ has a total attendance of ____ % (For duration _____ to _____). His/her overall performance has been _____(satisfactory/average/unsatisfactory)

Date:

Name & Signature of PG Guide

Remarks of Head of Department

Progress of Dr. _____ has been _____ (Satisfactory / Unsatisfactory)

Date:

Name & Signature of HOD

Remarks of Dean

(a) Progress _____ (Satisfactory / Unsatisfactory)

(b) Term granted _____ (Yes / No)

Date:

Signature of Dean

WORKSHOPS

The Students shall complete following workshops during the first year

- BLS
- ACLS
- ATLS
- PALS
- NALS
- AUTLS
- Disaster Management
- Behavioral Sciences

DISSERTATION

AIM :

To Orient the students to various methodologies of research, induce them to get acquainted with them and facilitate fruitful research, which will add to existing body of knowledge in the field of Emergency Medicine.

OBJECTIVES :

- Identify a relevant research question
- Conduct critical review of literature
- Formulate a hypothesis
- Determine most suitable study design
- State the objectives of the study
- Prepare a study protocol
- Get approval from the Ethics Committee
- Conduct the study, compile the data
- Analyze & interpret the data
- Draw conclusions, declare results
- Write two research papers and publish in peer reviewed journal
- Present paper/ poster at state/ national level conference

GUIDELINES :

- Scope of the study should be such that it is possible to conduct within the resources & time available
- More emphasis should be given on methodology rather than results
- Ethical issues & consideration must be given priority.

EVALUATION OF STUDENTS FOR PG DEGREE

For Postgraduate Degree the overall evaluation of the students will consist of internal assessment and the university examinations at the end of the course.

INTERNAL ASSESMENT

Once a month theory multiple choice questions tests as per the lectures. Viva exams once in two months of the rotations which are done.

TITLES OF THEORY PAPERS

Paper –I Basic Sciences and Resuscitation

Paper –II Medicine, Paediatrics & Allied Subjects

Paper –III Surgery, Obgy & Allied Subjects

Paper – IV Recent Advances, Toxicology, Environmental

EACH THEORY PAPER – 100 marks

2 Laq of 25 marks each – 50 marks

5 Saq of 10 marks each- 50 marks

PRACTICAL

- *This will be 1 day duration*
- *Clinical- 2 long case – 50 marks each- 100marks (Medicine and Trauma)*
- *5 short cases – 40 marks each – 200 marks (surg, paed, OBS/ gyn, ENT, Ophthalm and skin)*
- *Viva-voice(Table Viva) –100 marks++ (Equipment, Xray, ECG, ABG, BLS, ACLS, Airway, Intubation)*

REFERENCES :

- 1) Kpok model of education in pg emergency medicine world copyright of dr. K. p. O'keefe
- 2) Praveen Aggarwal, Sagar Galwankar, et al 2014. The 2014 Academic College of Emergency Experts in India's Education Development Committee (EDC) White Paper on establishing an academic department of Emergency Medicine in India– Guidelines for Staffing, Infrastructure, Resources, Curriculum and Training. Journal of Emergencies, Trauma, and Shock I 7:3 I Jul - Sept 2014
- 3) Guidelines for competency based training programme in dnb emergency medicine. National board of examinations new delhi.