

Pt. B.D. SHARMA UNVIERSITY OF HEALTH SCIENCES ROHTAK

No. UHSR/Acad./B-II/2024/

Dated:-

To

1. The Controller of Examinations
Pt. B.D. Sharma UHS, Rohtak
2. Dean, ESIC Medical College & Hospital
NIT, Faridabad
3. Dean & Professor, ENT Deptt.
World College of Medical Sciences & Research
Girawar, Jhajjar

Subject: - Syllabus for MD/DNB in Emergency Medicine Course.

After obtaining approval from the Hon'ble Vice-Chancellor, I have been directed to send a copy of the Emergency Medicine MD/DNB course syllabus/guidelines for implementation as it is currently not prescribed on the NMC website.

Encl: As above.

Assistant Registrar (Acad.)
For Dean Academic Affairs

No. UHSR/Acad./B-II/2024/877

Dated:- 16/02/24

A copy of the above is forwarded to the following for information and necessary action, please:-

1. Prof. Incharge, I.T. Cell, UHS, Rohtak with a request to upload the same on the University website.

Encl: As above.

Assistant Registrar (Acad.)
For Dean Academic Affairs

MD EMERGENCY MEDICINE

PROGRAMME OBJECTIVES

As a result of the training under this program, at the end of 3 years of postgraduate training, a resident must acquire the following knowledge, skills and competencies in :

A. Basic Sciences

1. Basics of human anatomy as relevant to clinical practice e.g. surface anatomy of various viscera, neuro-anatomy, important structures/organs location in different anatomical locations in the body; common congenital anomalies.
2. Basic functioning of various organ-system, control of vital functions, pathophysiological alteration in diseased states, interpretation of symptoms and signs in relation to patho-physiology.
3. Pre-hospital and in-hospital reception, resuscitation and management of undifferentiated urgent and emergency cases until discharge from the Emergency Department or transfer to the care of another physician.
4. Core clinical procedural skills required in emergency medicine
5. Knowledge about pharmacokinetics and pharmaco-dynamics of the drugs used for the management of emergency and critically ill patients and various poisons with specific reference to different geographical and clinical settings, diagnosis and management.
6. Research Methodology and Studies, epidemiology and basic Biostatistics.
7. It also in the development of pre-hospital and in-hospital emergency medical systems.
8. Biochemical basis of various diseases including fluid and electrolyte disorders; Acid base disorders etc.
9. Recent advances in relevant basic science subjects.

B. Advanced Skills :

1. A thorough knowledge of pathological abnormalities, clinical manifestations, and principles of management of a large variety of medical and surgical emergencies of pediatrics, adults and geriatrics, affecting any organ system.
2. Skill and competence to choose and interpret correctly the results of the various routine investigations necessary for proper management of the patient. While ordering these investigations, a resident must be able to understand the sensitivity, specificity and the predictive value of the proposed investigation, as well as its cost effectiveness in the management of the patient.
3. Skill and competence in emergency interventions like endotracheal intubations, Fiber optic , needle cricothyrotomy, tracheostomy, needle thoracocentesis, Intercostal drain placement, pericardiocentesis, defibrillation, mechanical ventilation, hemodialysis, ultrasonography, Echo so on and so forth.

A collection of handwritten signatures and initials in black ink, including a circled 'R', 'R-p. nader', 'B', 'RMP', 'KSK', 'f. dany', and a large stylized signature.

4. Skills and competence to perform commonly used diagnostic procedures, namely, lumbar puncture, bone marrow aspiration/biopsy, liver/nerve/muscle/ skin/ kidney/ pleural biopsy, fine needle aspiration cytology of palpable lumps, pleural/pericardial/abdominal/joint fluid aspiration.
5. Skill and competence to choose and interpret correctly the results of specialized investigations including radiologic (MRI, CT) , ultra-sonographic, biochemical, hemodynamic, electro-cardio graphic, electrophysiological, pulmonary functional, hematological, immunological, nuclear isotope scanning and arterial blood gas analysis results.
6. Skill and competence to provide consultation to other medical and surgical specialties and sub-specialties, whenever needed.
7. Skill and competence to function effectively in varied clinical settings, namely emergency/critical care including ventilatory management, ambulatory care, out-patient clinic, inpatient wards.
8. Skill and competence to take sound decisions regarding hospitalization, or timely referral to other consultants of various medical sub specialties recognizing his limitations in knowledge and skills in these areas.
9. Proficiency in selecting correct drug combinations for different clinical problems with thorough knowledge of their pharmacological effects, side effects, interactions with the other drugs, alteration of their metabolism in different clinical situations, including that in the elderly.
10. Skill and competence to advise on the preventive, restorative and rehabilitative aspects including those in the elderly, so as to be able to counsel the patient correctly after recovery from an acute or chronic illness.
11. Skill and competence to understand research methodology in Emergency medicine and to undertake a critical appraisal of the literature published in various emergency medical journals and be able to apply the same in the setting in which the resident is working.
12. Skill and competence to work cohesively in Resuscitation team along with paramedical personnel, maintain discipline and healthy interaction with the colleagues.
13. Skill and competence to do damage control surgery, bleeding control, emergency airway management and "Do No Harm Dictum".
14. Skill and competence to communicate clearly and consciously, and teach other junior residents, medical students, nurses and other paramedical staff, the theory as well as the practical clinical skills required for the practice of Emergency Medicine.

C. INTEGRATION :

The entire educational program will be conducted in an integrated and co-ordinated manner in association with various pre-clinical, para-clinical and clinical departments. The

(Signature) *R. Srinivasan* *E* *AKC* *182*
(Signature)

senior staff members of these departments will be requested to give lectures on various topics in relation with Emergency medicine, and focus on applied aspects.

D. TRAINING PROGRAMME:

- (i) Post-graduate training shall consist of training of the students through lectures, seminars, journal clubs, group discussions, participation in laboratory and experimental work, involvement in research, clinical meetings, grand rounds, clinicopathological conferences, practical training in the diagnosis and medical and surgical treatment, training in the basic medical sciences as well as in allied clinical specialties, etc. as per the requirement of Speciality training. Specialities where patient treatment is involved the teaching and training of the students, shall include graded responsibility in the management and treatment of patients entrusted to their care.
- (ii) All post-graduate students will work as full-time resident doctors. They will work for reasonable working hours and will be provided reasonable time for rest in a day.
- (iii) All broad-speciality students will do thesis related research and will write thesis.
- (iv) The training programmes shall be updated as and when required while keeping in mind the curriculum requirements and other relevant requirements prescribed by PGMEB from time to time. The structured training programme shall be written and strictly followed, to enable the examiners to determine the training undergone by the candidates.
- (v) Post-graduate students of broad Speciality degree courses shall maintain a dynamic e-log book / Log book which needs to be updated on a weekly basis about the work being carried out by them and the training programme undergone during the period of training. Provided that students shall mandatorily enter details of procedures assisted or done independently.
- (vi) It shall be the duty of the Post-graduate guide imparting the training to assess and authenticate monthly the record (e-Log) books. At the end of three years signed by HOD and Dean of institute to certify its genuineness.
- (vii) The post-graduate students shall essentially be required to participate in the teaching and training programme of undergraduate students , interns, para medics, nurses and post graduate of junior batches.
- (viii) During the training for award of Degree/Diploma, there shall be proper training in basic medical sciences related to the disciplines concerned. During the training programmes emphasis has to be laid on preventive and social aspects.
- (ix) A post-graduate student of a degree course in broad speciality will do at least one of the following to make him/her eligible to appear in his/her final examination:
 - a. Poster presentation at a National/Zonal/State conference of his/her speciality;
 - b. Podium presentation at a National/Zonal/State conference of his/her speciality;
 - c. Have one research paper published/accepted for publication in journal of his/her speciality as first author

@halla R. P. N. Nelli [Signature] [Signature] [Signature] [Signature] [Signature]

(xi) **Course in Research Methodology**

- a. All post-graduate students shall complete an online course in Research Methodology.
- b. The students shall have to register on the portal of the designated training institutions.
- c. The students are expected to complete the course in the first year.
- d. The online certificate generated on successful completion of the course and examination thereafter, will be acceptable evidence of having completed this course.
- e. The above certification shall be a mandatory requirement to be eligible to appear for the final examination of the respective post-graduate course.
- f. This requirement shall be applicable for all post-graduate students.

(xii) **Course in Ethics**

- a. All post-graduate students shall complete course in ethics including Good Clinical Practices and Good Laboratory Practices, whichever is relevant to them, to be conducted by institutions/Universities.
- b. The students are expected to complete the course in the first year.
- c. No post-graduate student shall be permitted to appear in the final examination without the above certification.

(xiii) **Course in Life Support Skills :**

- a) All post-graduate students shall complete a certified course in Basic Cardiac Life Support (BCLS) and Advanced Cardiac Life Support (ACLS) skills.
- b) No post-graduate student shall be permitted to appear in the examination without the above certification.
- c) Advanced Trauma Life Support (ATLS)
- d) Advanced Pediatric Life Support (APLS)
- e) Emergency radiology for Emergency Physicians Course
- f) Neonatal Life Support Course

The students are expected to complete these courses during the course.

(xiv) **Others** - Institutions may arrange training in any other courses like awareness in medical audit, ;|;omedical law, exposure to human behaviour studies, finance, accounts, Ultra sound scan, Communication skill workshops, Research methodology workshop, Child Protection etc, which are beneficial to the postgraduate students.

E. DISTRICT RESIDENCY PROGRAMME (DRP) :

A collection of handwritten signatures and initials in black ink, including names like 'Rishi Mohan', 'Raj', and '182' followed by a signature.

I. Preamble: Doctors have to be trained in diverse settings including those which are close to the community. Hence, they should be trained in the District Health System / the District Hospitals. Provided that in respect of M.D./M.S. students admitted with effect from academic session 2021, the training imparted as part of the District Residency Programme, shall be considered as training imparted in a medical institution.

II. Objectives: The main objectives of the District Residency Programme (DRP) would be:

- a. To expose the post-graduate student to the District Health System/ District Hospital and involve them in health care services being provided by District Health System /District Hospital for learning while serving;
- b. To acquaint them with the planning, implementation, monitoring, and assessment of outcomes of the National Health programmes at the district level.
- c. To orient them to promotive, preventive, curative and rehabilitative services being provided by various categories of healthcare professionals under the umbrella of the National Health Mission. In doing so, the post-graduate medical students would also be contributing towards strengthening of services of the District Health System as Speciality resident doctors working as members of the district teams.

III. Definition of District Hospital: For the purpose of this programme,

a District Hospital shall be a functional public sector/government-funded hospital of not less than 50 beds with facilities/staff for the 35 designated specialties at that level/facility. Any post-graduate medical institution or a super-speciality hospital will not be considered as district hospital.

IV. Definition of District Health System: For the purpose of this programme, the District Health System shall include all public sector/government-funded hospitals and facilities (including community health centres, primary health centres, sub-health centres, urban health centres, etc.), as well as community outreach system in a district. This would also include district system engaged in running respective public health services including the implementation of national and state public health programmes.

V. District Residency Programme: All post-graduate students pursuing M.D./M.S. in broad specialties in all medical colleges/institutions under the purview of the National Medical Commission shall undergo a compulsory residential rotation of three months in District Hospitals/ District Health System as a part of the course curriculum. Such rotation shall take place in the 3rd or 4th or 5th semester of the post-graduate programme. In the case of those students who have taken admission after completion of the Diploma in the relevant Speciality, the District Residency Programme shall take place in the third semester only. Similarly, the post-graduate diploma students shall undergo the District Residency Programme in the third semester. This rotation shall be termed as 'District Residency Programme' (DRP) and the post-graduate medical student undergoing training shall be termed as a 'District Resident'.

VI. Training and Responsibilities of District Residents: The District Resident will work under the overall directions and supervision of the District Residency Programme Coordinator (DRPC). During this rotation, the Resident doctor will be posted with the concerned/allied Speciality team/unit/ sections/services at the District Health System/ District Hospital. The

[Signature] R. N. ... [Signature] [Signature] [Signature] [Signature]

clinical responsibilities assigned to the Residents would include serving in outpatient, inpatient, casualty, and other areas pertaining to their Speciality and encompass night duties. Post-graduate students of specialities where direct patient care is not involved will be trained by District Health System/ District Hospital teams within the available avenues in coordination with the District Health Officer/Chief Medical Officer. They would be trained in and contribute to the diagnostic/laboratory services, pharmacy services, forensic services, general clinical duties, managerial roles, public health programmes etc., as applicable. They may also be posted in research units / facilities, laboratories and field sites of the Indian Council of Medical Research and other national research organizations.

VII. Stipend and Leave for District Residents: The District Residents shall continue to draw full stipend from their respective medical colleges for the duration of the rotation subject to the attendance record submitted by the appropriate district authorities to the parent medical college/institution, based on methods and system as prescribed. Subject to exigencies of work, the District Resident will be allowed one weekly holiday by rotation. They shall also be entitled to leave benefits as per the rules/ guidelines of the parent college/university.

VIII. Training during DRP and Certification thereof: a. Quality of training shall be monitored by log books, supportive supervision, and continuous assessment of performance. The attendance and performance of District Residents shall be tracked by the District Residency Programme Coordinator (DRPC) of the district concerned, as well as the parent Medical College through an appropriate electronic/digital or mobile enabled system. Such monitoring systems shall also be accessible to the State/Union Territory Steering Committee and the National Coordination Cell. b. The District Residents would remain in contact with their designated post-graduate teachers and departments at their parent Medical College / Institution by phone and e-communication for guidance, learning, and for being able to participate remotely in scheduled case discussions, seminars, journal clubs, thesis discussion, etc. and other academic activities. c. Satisfactory completion of the District Residency shall be an essential condition before the candidate is allowed to appear in the final examination of the respective post-graduate course. d. The District Residency Programme Coordinator (DRPC) shall issue certificate of satisfactory completion of DRP and report on the performance of the District Resident on a prescribed format to be decided by the PGMEB to the concerned medical college and the Govt. of the State/UT.

IX. Responsibility of Medical College/Medical Institution: It shall be incumbent upon all medical colleges/ institutions to place the post-graduate students at the disposal of the Government of concerned State/Union Territory for the District Residency Programme. The faculty of the concerned departments 36 would provide guidance to the District Residents by phone/e-communication in accordance with Section 5.2.VI and VIII.

X. Responsibility of State Government /Union Territory: The State Government /Union Territory shall implement the District Residency Programme within their jurisdiction as under: - a. The Programme shall be coordinated jointly by the Directorate of Medical Education and the Directorate of Health Services. An Officer of the State Government /Union Territory shall be designated as the State/UT District Residency Programme (DRP) Nodal Officer. The concerned Government shall be responsible for the facilitation, oversight and supervision of the District Residency Programme. b. The designated State/UT DRP Nodal officer shall identify and designate District Health System/ District Hospital that are suitable for such rotation in terms of availability of specific specialties, specialists, facilities and

Rupinder

[Signature]

[Signature]

[Signature]

[Signature]

[Signature]

[Signature]

services available in consultation with the Directorate of Health Services of the State and the medical colleges, and develop a placement schedule of the Post-graduate residents of the medical colleges due for rotation at least six months in advance. This official will also be responsible for grievance redressal at State level. c. The State DRP Nodal officer shall undertake rule-based allotment of the training facilities to the Post-graduate Residents. d. The State Government shall provide appropriate amenities to the District Residents, including, amongst others, suitable accommodation, mess, transportation to work place (if living quarters is far away), security, especially for lady Residents. Accommodation could be by means of Government premises or that rented by concerned State Government and should conform to prescribed norms. e. The District Residents shall remain under the jurisdiction of respective State/ UT DRP Nodal officer where they are undergoing District Residency. f. In case all the Post-graduate Residents of a State/UT cannot be absorbed within their respective jurisdiction, possibility of posting them to other States/Union Territories may be explored by mutual understanding in consultation with the respective Governments facilitated by the National Coordination Cell. g. It shall be permissible for the post-graduate students from the North East Zone (NEZ) in various medical colleges/institutions in the country, to undergo District Residency Programme in their respective States. h. The State Government/UT may consider providing additional honorarium to the District Residents as a token of recognition of their contribution to the healthcare services of the States. In addition, the concerned Governments may make provisions to incentivize postings to remote and difficult areas, and encourage volunteering by post-graduate students to serve at these places. i. The concerned State Government shall also designate a senior official of the District Health System as the District Residency Programme Coordinator (DRPC) in each District for coordinating between the State DRP Nodal officer and the medical colleges. The District Residency Programme Coordinator shall also be responsible for orienting the Post-graduate Residents to the District health system, supervising the postings within the district, ensuring their accommodation, safety and transport needs, grievance redressal, etc. District Residency Programme Coordinator shall be the competent authority for sanctioning leave to District Residents.

XI. Responsibility of National Medical Commission: All Medical institutions will submit the DRP posting details of the students to PGMEB of the National Medical Commission within one week of completion of the DRP. The PGMEB of the National Medical Commission will monitor the training programme and may direct necessary changes to the State Government and Medical institutions, if so desired.

XII. Constitution of National/State Oversight Mechanisms: a. The National Medical Commission shall constitute a National Steering Committee in consultation with the Ministry of Health and Family Welfare, Government of India to oversee the implementation of the District Residency Programme. b. The National Steering Committee shall be chaired by the President, Post-Graduate Medical Education Board (PGMEB) or his nominee. The Committee shall comprise nominated members from the Ministry of Health and Family Welfare (not below the rank of Director/Deputy Secretary), Nominee of the Directorate General of Health Services (DGHS) and representatives of at least six State Governments/Union Territories. The Committee may submit quarterly reports to the Central Government. c. The National Steering Committee shall establish a National Coordination Cell (NCC) under the PGMEB of the National Medical Commission, which shall be responsible for the smooth and efficient implementation of the District Residency Programme

Sharma *Rupa Medil* *[Signature]* *[Signature]* *[Signature]* *[Signature]*

and grievance redressal at the national level. d. The Governments of State/Union Territory shall constitute a State/Union Territory level Steering Committee chaired by the Principal Secretary/ Secretary (Health) and comprising the Principal Secretary/Secretary (Medical Education), Director of Health Services, Director of Medical Education, Registrar of the Health University and Deans of the medical colleges to facilitate the implementation of the District Residency Programme.

XIII. Application for Proportionate Enhancement of Postgraduate Seats: The Medical College/Institution may apply for proportionate enhancement of MD/MS seats to compensate for the potential compromise of work at its teaching hospital/institution due to out-posting of the postgraduate medical students/residents for the District Residency Programme. Such applications can be made after one year of the implementation of the District Residency Programme.

F. RECOMMENDED CORE SYLLABUS :-

SYSTEM-BASED CORE KNOWLEDGE :

This section of the curriculum gives an index of the system-based core knowledge appropriate to the management of patients presenting with undifferentiated symptoms and complaints. This list is mostly given in the following sequence: congenital disorders; inflammatory and infectious disorders; metabolic disorders; traumatic and related problems; tumors; vascular disorders, ischaemia and bleeding; other disorders.

1. CARDIOVASCULAR EMERGENCIES IN ADULTS AND CHILDREN

- Arrhythmias
- Congenital heart disorders
- Contractility disorders, pump failure
- cardiomyopathies, congestive heart failure, acute pulmonary oedema,
- tamponade, valvular emergencies
- Inflammatory and infectious cardiac disorders
- endocarditis, myocarditis, pericarditis • Ischaemic heart disease
- acute coronary syndromes, stable angina
- Traumatic injuries
- Vascular and thromboembolic disorders
- aortic dissection/aneurysm rupture, deep vein thrombosis, hypertensive
- emergencies, occlusive arterial disease, thrombophlebitis, pulmonary
- embolism, pulmonary hypertension

2. DERMATOLOGICAL EMERGENCIES IN ADULTS AND CHILDREN

- Inflammatory and Infectious disorders
- Skin manifestations of immunological disorders, systemic disorders, toxic disorders

3. ENDOCRINE AND METABOLIC EMERGENCIES IN ADULTS AND CHILDREN

- Acute presentation of inborn errors of metabolism
- Adrenal insufficiency and crisis

Shah R. S. Mehra

[Signature]

[Signature]

[Signature]

[Signature]

[Signature]

- Disorders of glucose metabolism hyperosmolar hyperglycaemic state, hypoglycaemia, ketoacidosis
- Thyroid disease emergencies hyperthyroidism, hypothyroidism, myxoedema coma, thyroid storm

4. FLUID AND ELECTROLYTE DISTURBANCES

- Acid-Base disorders
- Electrolyte disorders
- Volume status and fluid balance

5. EAR, NOSE, THROAT, ORAL AND NECK EMERGENCIES IN ADULTS AND

CHILDREN

- Bleeding
- Complications of tumours, airway obstruction
- Foreign bodies
- Inflammatory and Infectious disorders angio-oedema, epiglottitis, laryngitis, paratonsillar abscess
- Traumatic problems

6. GASTROINTESTINAL EMERGENCIES IN ADULTS AND CHILDREN

- Congenital disorders like Hirschsprung's disease, Meckel's diverticulum, pyloric stenosis
- Inflammatory and infectious disorders appendicitis, cholecystitis, cholangitis, diverticulitis, exacerbations and complications of inflammatory bowel diseases, gastritis, gastroenteritis, gastro-oesophageal reflux disease, hepatitis, pancreatitis, peptic ulcer, peritonitis
- Metabolic disorders hepatic disorders, hepatic failure
- Traumatic and mechanical problems foreign bodies, hernia strangulation, intestinal obstruction and occlusion
- Tumours
- Vascular disorders/Ischaemia and bleeding: ischaemic colitis, upper and lower gastrointestinal bleeding, mesenteric ischaemia
- Other problems complications of gastrointestinal devices and surgical procedures

7. GYNAECOLOGICAL AND OBSTETRIC EMERGENCIES

- Inflammatory and Infectious disorders mastitis, pelvic inflammatory disease, vulvovaginitis
- Obstetric emergencies, abruptio placentae, eclampsia, ectopic pregnancy, emergency delivery,
- HELLP syndrome during pregnancy, hyperemesis gravidarum, placenta praevia, post-partum haemorrhage
- Traumatic and related problems ovarian torsion
- Tumours
- Vascular disorders/ Ischaemia and bleeding: vaginal bleeding

8. HAEMATOLOGY AND ONCOLOGY EMERGENCIES IN ADULTS AND CHILDREN

- Anaemias
- Complications of lymphomas and leukaemias
- Congenital disorders haemophilias and Von Willebrand's disease, hereditary haemolytic anaemias, sickle cell disease

Shah Rube Malik
 [Handwritten signatures and initials]

- Inflammatory and Infectious disorders neutropenic fever, infections in immunocompromised patients
- Vascular disorders/ Ischaemia and bleeding: acquired bleeding disorders (coagulation factor deficiency, disseminated intravascular coagulation), drug induced bleeding (anticoagulants, antiplatelet agents, fibrinolytics), idiopathic thrombocytopenic purpura, thrombotic thrombocytopenic purpura
- Transfusion reactions

9. IMMUNOLOGICAL EMERGENCIES IN ADULTS AND CHILDREN

- Allergies and anaphylactic reactions
- Inflammatory and Infectious disorders • Acute complications of vasculitis

10. INFECTIOUS DISEASES AND SEPSIS IN ADULTS AND CHILDREN

- Common viral and bacterial infections
- Food and water-borne infectious diseases
- HIV infection and AIDS
- Common tropical diseases
- Parasitosis
- Rabies
- Sepsis and septic shock
- Sexually transmitted diseases
- Streptococcal toxic shock syndrome
- Tetanus

11. MUSCULO-SKELETAL EMERGENCIES

- Congenital disorders dislocated hip, osteogenesis imperfecta
- Inflammatory and Infectious disorders arthritis, bursitis, cellulitis, complications of systemic rheumatic diseases, necrotising fasciitis, osteomyelitis, polymyalgia rheumatica, soft tissue infections
- Metabolic disorders complications of osteoporosis and other systemic diseases
- Traumatic and degenerative disorders back disorders, common fractures and dislocations, compartment syndromes, crush syndrome, osteoarthritis, rhabdomyolysis, soft tissue trauma
- Tumours: pathological fractures

12. NEUROLOGICAL EMERGENCIES IN ADULTS AND CHILDREN

- Inflammatory and Infectious disorders brain abscess, encephalitis, febrile seizures in children, Guillain-Barré syndrome, meningitis, peripheral facial palsy (Bell's palsy), temporal arteritis
- Traumatic and related problems complications of CNS devices, spinal cord syndromes, peripheral nerve trauma and entrapment, traumatic brain injury
- Tumours common presentations and acute complications of neurological and metastatic tumours
- Vascular disorders: carotid artery dissection, stroke, subarachnoid haemorrhage, subdural and extradural haematomata, transient ischaemic attack, venous sinus thrombosis
- Other problems acute complications of chronic neurological conditions (e.g. myasthenic crisis, multiple sclerosis), acute peripheral neuropathies, seizures and status epilepticus

A collection of handwritten signatures and initials in black ink, including names like 'Rupendra', 'Raj', 'VSE', and 'F. Das', along with other illegible scribbles.

13. OPHTHALMIC EMERGENCIES IN ADULTS AND CHILDREN

- Inflammatory and Infectious disorders conjunctivitis, dacryocystitis, endophthalmitis, iritis, keratitis, orbital and periorbital cellulitis, uveitis
- Traumatic and related problems foreign body in the eye, ocular injuries,
- Vascular disorders: retinal artery and vein occlusion, vitreous haemorrhage
- Others like acute glaucoma, retinal detachment

14. PULMONARY EMERGENCIES IN ADULTS AND CHILDREN

- Congenital cystic fibrosis
- Inflammatory and Infectious disorders asthma, bronchitis, bronchiolitis, pneumonia, empyema, COPD exacerbation, lung abscess, pleurisy and pleural effusion, pulmonary fibrosis, tuberculosis
- Traumatic and related problems foreign body inhalation, haemothorax, tension pneumothorax, pneumomediastinum
- Tumours common complications and acute complications of pulmonary and metastatic tumours,
- Vascular disorders pulmonary embolism
- Other disorders: acute lung injury, atelectasis, ARDS, spontaneous pneumothorax

15. PSYCHIATRIC AND BEHAVIOUR DISORDERS

- Behaviour disorders affective disorders, confusion and consciousness disturbances, intelligence disturbances, memory disorders, perception disorders, psycho-motor disturbances, thinking disturbances.
- Common psychiatric emergencies acute psychosis, anorexia and bulimia complications, anxiety and panic attacks, conversion disorders, deliberate self-harm and suicide attempt, depressive illness, personality disorders, substance, drug and alcohol abuse

16. RENAL AND UROLOGICAL EMERGENCIES IN ADULTS AND CHILDREN

- Inflammatory and Infectious disorders epididymo-orchitis, glomerulonephritis, pyelonephritis, prostatitis, sexually transmitted diseases, urinary tract infections
- Metabolic disorders acute renal failure, nephrotic syndrome, nephrolithiasis, uraemia • Traumatic and related problems urinary retention, testicular torsion
- Tumours • Vascular disorders: Ischaemia and Bleeding
- Other disorders comorbidities in dialysis and renal transplanted patients, complications of urological procedures and devices, haemolytic uraemic syndrome

17. TRAUMA IN ADULTS AND CHILDREN

- Origin of trauma: burns, blunt trauma, penetrating trauma
- Anatomical location of trauma: head and neck, maxillo-facial, thorax, abdomen, pelvis, spine, extremities
- Polytrauma patient
- Trauma in specific populations: children, elderly, pregnant women,
- Acute Abdominal Pain, Gastrointestinal causes Appendicitis, cholecystitis, cholangitis, acute pancreatitis, complications of hernias, diverticulitis, hepatitis, hiatus hernia, inflammatory bowel disease, intestinal obstruction, ischaemic colitis, mesenteric ischaemia, peptic ulcer, peritonitis, viscus perforation

@Shah
 Rupa Naha
 [Signature]
 [Signature]
 [Signature]
 [Signature]
 [Signature]

- Cardiac/vascular causes Acute myocardial infarction, aortic dissection, aortic aneurysm rupture
- Psychiatric causes Conversion syndrome
- Respiratory causes Respiratory failure
- Toxicology Alcohol intoxication, carbon-monoxide poisoning, narcotic and sedative poisoning, other substances
- Trauma

18. SPECIFIC ASPECTS OF EMERGENCY MEDICINE (ABUSE AND ASSAULT IN ADULTS AND CHILDREN)

- Abuse in the elderly and impaired
- Child abuse and neglect
- Intimate partner violence and abuse
- Sexual assault
- Patient safety in Emergency Medicine
- Violence management and prevention in the Emergency Department

19. ANALGESIA AND SEDATION IN ADULTS AND CHILDREN

- Pain transmission (anatomy, physiology, pharmacology)
- Pain assessment
- Pharmacology of sedative and pain relieving drugs
- Psychological and social aspects of pain in paediatric, adult and elderly patients

20. DISASTER MEDICINE

- Disaster preparedness
- Major incident planning/procedures/practice
- Disaster response
- Mass gatherings
- Specific medical topics (triage, bioterrorism, blast and crush injuries, chemical agents, radiation injuries)
- Debriefing and mitigation

21. ENVIRONMENTAL ACCIDENTS IN ADULT AND CHILDREN

- Electricity (electrical and lightening injuries)
- Flora and Fauna (injuries from exposure, bites and stings)
- High-altitude (medical problems)
- NBCR (nuclear, biological, chemical and radiological: decontamination, specific aspects) • Temperature (heat and cold related emergencies)
- Travel medicine
- Water (near-drowning, dysbarism and complications of diving, marine fauna)

22. FORENSIC ISSUES

- Basics of relevant legislation in the country of practice
- Recognise and preserve evidence
- Provide appropriate medical documentation (including forensic and clinical photography, collection of biological samples, ballistics)
- Appropriate reporting and referrals (e.g. child abuse or neglect, gunshot and other forms of penetrating wounds, elder abuse, sexual assault allegations)
- Medico-legal documentation

A collection of handwritten signatures and initials in black ink, including names like 'Shah', 'Rupesh', 'Raj', and 'LRS', along with various scribbles and underlines.

23. INJURY PREVENTION AND HEALTH PROMOTION

- Collection and interpretation of data related to prevention and health promotion
- Epidemiology of Accidents and Emergencies • Formulation of recommendations

24. PATIENT MANAGEMENT ISSUES IN EMERGENCY MEDICINE

- Emergency Department organization (administration, structure, staffing, resources)
- Management of specific populations: Children in special circumstances including child protection Elderly patients Homeless patients Mentally incompetent adults Psychiatric patients

25. PROBLEMS IN THE ELDERLY

- Atypical presentations (e.g. abdominal pain, infections, myocardial infarction)
- Delirium • Dementia
- Falls (causes & investigations)
- Immobility
- Multiple pathology and multiple therapies
- Self-dependency
- Trauma & co-morbidity

26. TOXICOLOGY IN ADULTS AND CHILDREN

- General principles of toxicology and management of poisoned patients
- Principles of drug interactions
- Specific aspects of poisoning drugs (including paracetamol, amphetamine, anticholinergics, anticonvulsants, antidepressants, antihypertensives, benzodiazepines, digitalis, monoamine oxidase inhibitors, neuroleptics) industrial, chemicals plants & mushrooms alcohol abuse and alcohols poisoning drugs of abuse
- Local poisonings such as OPC, aluminium phosphide, yellow phosphorous, heavy metal poisoning, plant poisonings, paraquat poisoning, cyber methrine poisoning, corrosives petroleum products, methanol and ethanol, dyes and nitrobenzene.
- Organization and information (e.g. poison centres, databases)

27. PRE-HOSPITAL CARE

- Emergency Medical Services organisation (administration, structure, staffing, resources)
- Medical transport (including neonates and children, air transport)
- Paramedic training and function
- Safety at the scene
- Collaboration with other emergency services (e.g. police, fire department)

28. PSYCHO-SOCIAL PROBLEMS

- Social wellbeing of specific populations
- Patients with social issues
- Frequent visitors
- Social care following discharge

G. CORE CLINICAL PROCEDURES AND SKILLS

1. CPR SKILLS

A collection of handwritten signatures and initials in black ink, including names like 'Rupe Malik', 'V', 'Raj', 'VSS', and 'A2', along with a circled signature 'Ghosh' on the left.

- Cardio-pulmonary resuscitation procedures in a timely and effective manner according to the current ILCOR guidelines for adults and children • Advanced CPR skills (e.g. therapeutic hypothermia, open chest CPR)

2. AIRWAY MANAGEMENT SKILLS

- Open and maintain the airway in the emergency setting (insertion of oropharyngeal or nasopharyngeal airway) • Endotracheal intubation • Alternative airway techniques in the emergency setting (e.g. laryngeal mask insertion, surgical airway) • Difficult airway management algorithm • Use of rapid sequence intubation in the emergency setting

3. ANALGESIA AND SEDATION SKILLS

- Assessment of the level of pain and sedation • Monitor vital signs and potential side effects during pain management • Provide procedural sedation and analgesia including conscious sedation (including • testing of life support equipment) • Use of appropriate local, topical and regional anaesthesia techniques

4. BREATHING AND VENTILATION MANAGEMENT SKILLS

- Assessment of breathing and ventilation • Oxygen therapy • Interpretation of blood gas analysis, pulse oximetry and capnography • Bag-mask-valve ventilation • Thoracocentesis • Chest tube insertion, connection to under-water drainage and assessment of • functioning • Non-invasive ventilation techniques • Invasive ventilation techniques

5. CIRCULATORY SUPPORT AND CARDIAC SKILLS AND PROCEDURES

- Administration of fluids including blood and substitutes • Monitoring of ECG and the circulation • Defibrillation and pacing (e.g. cardioversion, transcutaneous pacing) • Emergency pericardiocentesis • Vascular access (peripheral venous, arterial, and central venous catheterisation, intraosseous access)

6. DIAGNOSTIC PROCEDURES AND SKILLS

- Interpretation of ECG • Appropriate request and interpretation of laboratory investigations (blood chemistry, blood gases, respiratory function testing and biological markers) • Appropriate request and interpretation of imaging (e.g. x-rays, ultrasound, CT/MRI) • Focused Assessment of Sonography in Trauma (FAST). • Emergency Ultrasound and Echocardiology • Gastrointestinal Procedures: Shangstaken tube insertion, endoscopic banding, sclerotherapy in UGI bleed

7. ENT SKILLS AND PROCEDURES

- Anterior rhinoscopy • Insertion of nasal pack • Inspection of oropharynx and larynx • Otoscopy • Removal of foreign body if airway is compromised • Insertion and replacement of tracheostomy tube

8. GASTROINTESTINAL PROCEDURES

- Insertion of nasogastric tube • Gastric lavage • Peritoneal lavage • Abdominal hernia reduction • Abdominal paracentesis • Measurement of abdominal pressure • Proctoscopy

9. GENITOURINARY PROCEDURES

A collection of handwritten signatures and initials in black ink, including a circled signature on the left, several initials in the middle, and a signature on the right.

- Insertion of indwelling urethral catheter • Suprapubic cystostomy • Testicular torsion reduction • Evaluation of patency of urethral catheter

10. HYGIENE SKILLS AND PROCEDURES

- Decontamination of patient and the environment • Patient isolation and staff protection

11. MUSCULOSKELETAL TECHNIQUES

- Aseptic joint aspiration • Fracture immobilisation • Reduction of joint dislocation • Log roll and spine immobilisation • Splinting (plasters, braces, slings, tapes and other bandages) • Management of compartment syndrome • Fasciotomy, escharotomy

12. NEUROLOGICAL SKILLS AND PROCEDURES

- Evaluation of consciousness including the Glasgow Coma Scale • Fundoscopy • Lumbar puncture • Interpretation of neuro-imaging

13. OBSTETRIC AND GYNAECOLOGICAL SKILLS AND PROCEDURES

- Emergency delivery • Vaginal examination using speculum • Assessment of the sexual assault victim

14. OPHTHALMIC SKILLS AND PROCEDURES

- Removal of foreign body from the eye • Slit lamp use • Lateral canthotomy

15. TEMPERATURE CONTROL PROCEDURES

- Measuring and monitoring of body temperature • Cooling techniques (evaporative cooling, ice water or slush immersion) • Internal cooling methods • Warming techniques • Monitoring heat stroke patients • Treatment and prevention of hyper- and hypothermia

16. TRANSPORTATION OF THE CRITICALLY ILL PATIENT

- Telecommunication and telemedicine procedures • Preparation of the EMS vehicle • Specific aspects of monitoring and treatment during transportation

17. WOUND MANAGEMENT

- Abscess incision and drainage • Aseptic techniques • Treatment of lacerations and soft tissue injuries • Wound irrigation and wound closure

H. ILLUSTRATIVE STUDY MATERIAL

Recommended Text Books

- Emergency Medicine: a comprehensive study guide. Tintilli, J et al, New York: McGraw-Hill
- Emergency Medicine (latest edition) Anthony FT Brown, Michael D Cadgan, London, Hodder Arnold
- Medicine Textbook of Adult Emergency (Latest Edition) Peter Cameron, George Jelinek, Anne- Maree Kelly, Lindsay murray, Anthony FT Brown, Jhon Heyworth eds. Edinburgh, Churchill Livingstone
- Oxford Hand Book of Accident and Emergency Medicine (LLATEST Edition) JP Wyatt, RN Illingworth, CE Robertson, MJ Clancy, PT Munro eds. Oxford, oxford University Press

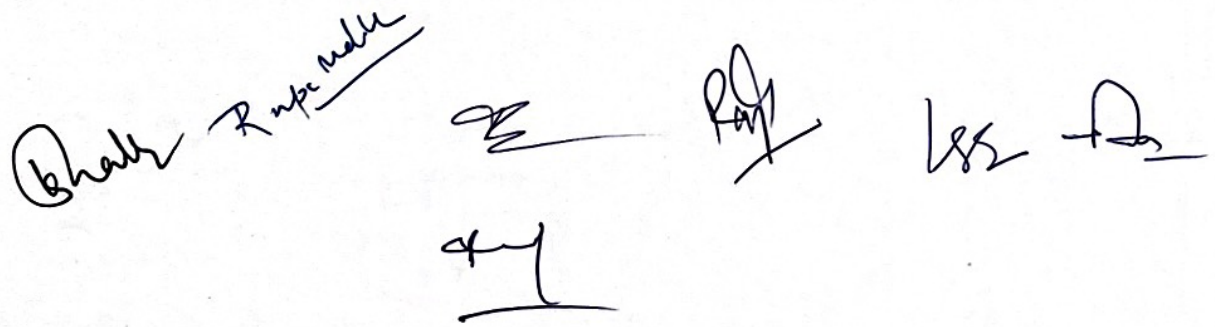
A collection of handwritten signatures and initials in black ink, including 'Shah', 'Rupendil', 'Ray', 'W.S.', and 'D.', along with a horizontal line at the bottom.

- Text book of pediatric Emergency Medicine (Latest edition) Peter Cameron, George Jelinek, Ian Everitt, Gary Browne, Jeremy Raftos. London, Churchill Livingstone.
- Textbook of Adult Emergency Medicine, Edinburgh: Churchill Livingstone.
- Rosen's textbook of emergency Medicine • Accident & Emergency Radiology, A survival guide- Nigel Raby
- Harwood-Nuss' Clinical Practice of Emergency Medicine, Wolfson, A (Editor), New York: Lippincott, Williams & Wilkins.
- Textbook of Emergency Medicine, David, S (Editor), New York: Lippincott, Williams & Wilkins.
- Goldfrank's Toxicologic Emergencies, Nelson, L et al., New York: McGraw-Hill.
- Modern Medical Toxicology, Pillay, V.V.
- Textbook of Critical Care, Fink, M (Editor): Philadelphia, Elsevier Saunders.
- ECG For Emergency Physician, Mattu and Brady (Editors), London: BMJ Publishing.
- An Introduction to Clinical Emergency Medicine, Mahadevan, S.V. (Editor), New York: Cambridge University Press.
- American Heart Association Basic Life Support, Advanced Cardiovascular Life Support and Pediatric Life Support manuals
- Advanced Trauma Life Support manual published by the American College of Surgeons

JOURNALS

- The journal of Emergency Medicine- Elsevier (the official journal of the America Academy of Emergency Medicine)
- American Journal of Emergency Medicine
- European Journal of Emergency Medicine (the official journal of the European Society for Emergency Medicine)
- Annals of Emergency Medicine (the official journal of the American College of Emergency Medicine)
- Emergency Medicine Australasia
 - Academy Emergency Medicine
 - Emergency Medicine Journal
 - Emergency Medicine Australasia
- National Journal of Emergency Medicine published by SEMI
- American Heart Association journal, Circulation Online Resources
- American Academy Of Emergency Medicine- Position Statements
- American College Of Emergency Physicians- Practice Resources
- Association Of Emergency Physicians- Policy And Position Statements
- Australasian College For Emergency Medicine – Policies And Guidelines
- Australian And New Zealand Intensive Care Society- Policy Statements
- Council Of Emergency Medicine Residency Directors- Position Statements
- Emergency Management Australia- Publications
- European Resuscitation Council- Guidelines
- Intensive Care Society (UK)- Standards And Guidelines
- National Electronic Library For Health (UK) Emergency Care
- Resuscitation Council (UK)
- Society For Academic Emergency Medicine – Position Statements
- Society Of Critical Care Medicine- Guidelines
- Triage – Injury, Treatment And Recovery, Shoestring Graphic

I. CLINICAL ROTATIONAL POSTING


 A collection of handwritten signatures and initials at the bottom of the page. On the left, there is a signature that appears to be 'Bhabh' with 'R. n. p. m. d. k.' written above it. In the center, there are several stylized signatures, including one that looks like 'Z' and another that looks like 'H'. On the right, there are more signatures, including one that looks like 'P. P.' and another that looks like 'L. S. S.' followed by a signature that looks like 'A. S.'

Expected rotations of Residents pursuing MD Emergency Medicine will be as follows:

Year I

- Medical Emergency including Emergencies pertaining Respiratory Medicine/ Paediatrics
Emergency: 4 months
- Surgical Emergencies including trauma / other Orthopaedic emergencies / Eye/ENT/Dental:
4 months
- OBG Emergency: 2 weeks
- Anaesthesia: 2 weeks
- Emergency ICU-2 months
- Radiology : 2 weeks
- Psychiatry: 2 weeks

Year II

- Medical Emergency including Emergencies pertaining Respiratory Medicine: 2 months
- Surgical Emergencies including trauma / other Orthopedic emergencies 2 months
- Pediatric EM: 1 month

ICU POSTINGS

- Surgical/Medical/RICU/Obstetrics/CoronaryCare - 4 months
- DRP- 3 months

Year III

- Medical Emergency including Emergencies pertaining Respiratory Medicine: 3 months
- Surgical Emergencies including trauma / other Orthopedic emergencies 3 months
- PICU- 1month
- Neuro ICU/CTVS/ Burns and Plastic ICU-1month
- Emergency ICU-3 months
- Hospital Administration: 2 weeks
- Forensic Medicine including Medico legal Work- 2 weeks

J. PRACTICAL AND CLINICAL TRAINING

Apart from the clinical training of emergency cases in the Emergency Departments, practical hands on training in the various procedures are required: (Minimum number of procedures that a candidate needs to perform are:)

1. Advanced Life Support procedures in support of CPR- 10
2. Advanced Trauma Life Support procedures in support of stabilization of the traumatized patient- 10
3. Tracheal intubation with the use of paralyzing and induction agents as appropriate for rapid sequence intubation- 20
4. Cardioversion and defibrillation -10
5. Paediatric resuscitation- 10
6. Venous cutdowns -1
7. Closed chest cardiac massage- 10
8. Open chest cardiac massage -1
9. Emergency cricothyroidotomy- 1
10. Pacemaker placement- external, transvenous and transthoracic, E = 4, TV=2
11. Emergency pericardiocentesis -1

Shankar Rupa Malik

[Handwritten signatures]

- 12. Central venous catheter insertion- 5
- 13. Pulmonary artery catheter insertion- 1
- 14. Management of oxygen therapy and ventilators- 10
- 15. Incision and drainage of abscess, hematoma, furuncle and hemorrhoid-5
- 16. Wound debridement and laceration repair -10
- 17. Local field block, hematoma block and peripheral nerve block anesthesia -4
- 18. Preservation of served extremities- 2
- 19. Nail trephination -1
- 20. Tube thoracostomy -4
- 21. Closed reduction of hernias -1
- 22. Peritoneal lavage- 1
- 23. Arthrocentesis -2
- 24. Culdocentesis- 1
- 25. Thoracentesis- 2
- 26. Application and removal of splints and casts -10
- 27. Closed reduction of dislocated joints -2
- 28. Use of emergency immobilization and traction techniques- 10
- 29. Compartment pressure measurement -1
- 30. Management of epistaxis- 1
- 31. Removal of foreign bodies -2
- 32. Drainage of peritonsillar abscesses- 1
- 33. Stabilization of traumatically avulsed teeth- 1
- 34. Direct, fiberoptic and indirect laryngoscopy- 10
- 35. Emergency delivery of babies- 1
- 36. Removal of intrauterine devices- 1
- 37. Introduction of urethral catheters- 10
- 38. Suprapubic catheterization- 2
- 39. Lumbar puncture- 2
- 40. Sigmoidoscopy and anoscopy -2
- 41. Use of the slit lamp- removal of conjunctival and corneal foreign bodies- 4
- 42. Ocular tonometry -1
- 43. Insertion of Blakemore tube -1
- 44. Insertion of nasogastric, orogastric or intestinal tube- 10
- 45. Peripheral arterial puncture and cannulation- 25
- 46. Intraosseous infusion and administration of sedation and analgesia- 1
- 47. ECHO and emergency ultrasound
- 48. Correct documentation in the electronic medical record (EMR)

K. EXAMINATIONS

Examinations: The medical college/institution will conduct the Formative Assessment (examination) and the University will conduct the Summative Assessment (examination). Both Formative Assessment (examination) and Summative Assessment (examination). shall consist of Theory, Clinical/Practical and Viva Voce. The university shall conduct not more than two examinations in a year, for any subject, with an interval of not less than 4 and not more than 8 months between the two examinations.

Examiners:

a. The examiner (both internal and external) for the post-graduate examination in Broad and Super Specialties shall have three years' experience as recognised Post-graduate Guide in the concerned subject.

@kulk
 Roshan
 Roshan
 W.S. D.

b. The minimum number of examiners for post-graduate examination shall be four. Out of which, at least two shall be external examiners and least one of them shall be from different university outside the state.

c. An examiner shall not be appointed for more than two consecutive regular examinations for the same institution.

Methodology : A. Broad Specialties: Doctor of Medicine (M.D.)/Master of Surgery (M.S.): M.D./M.S. examinations, in any subject shall consist of theory papers, and clinical/practical and viva voce examinations.

a. **Theory:** The theory examination (both formative and summative) may be of descriptive answer of a question type, Multiple Choice Question (MCQ) type or mix of both types. Theory examination for summative examination shall be of four theory papers. The first and the fourth paper shall be on basic medical science and recent advances, respectively. The theory examination shall be held well in advance before the clinical and practical examination. The Theory Assessment would be covered as follows:

- Paper I Applied Basic Sciences related to Emergency Medicine
- Paper II Medical Emergencies including toxicology
- Paper III Surgery emergencies and trauma
- Paper IV Pediatrics, disaster management, pre hospital care and Recent advances in Emergency Medicine

b. **Clinical/Practical and viva voce**

i. Clinical examination for the subjects in clinical sciences shall be conducted to test the knowledge and competence of the candidates for undertaking independent work as a consultant/specialist/teacher, for which candidates shall be examined for one long case and two short cases.

ii. Practical examination for other subjects shall be conducted to test the knowledge and competence of the candidates for making valid and relevant observations based on the experimental/ laboratory studies and his ability to perform such studies as are relevant to his subject.

iii. The viva voce examination shall be thorough and shall aim at assessing the candidate's knowledge and competence about the subject, investigative procedures, therapeutic technique and other aspects of the Speciality.

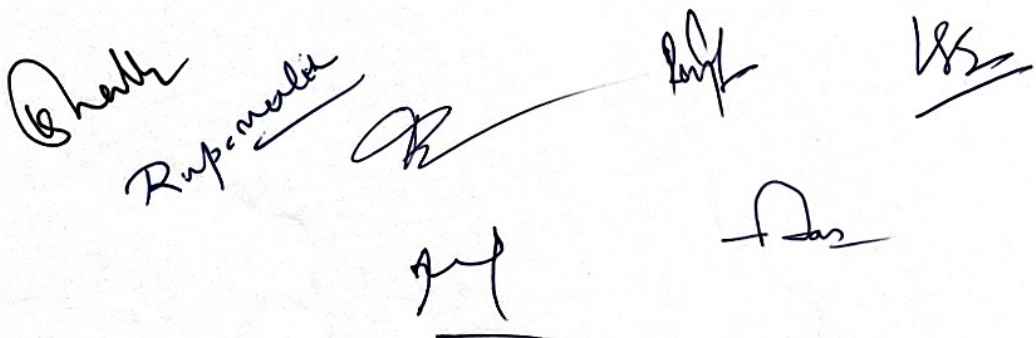
iv. Clinical/practical examination shall include Objective Structured Clinical Examination (OSCE).

Valuation:

a. All the teachers of the other colleges of the concerned University or other Universities, who are eligible to be post-graduate examiners, can perform the valuation of the answer scripts.

b. All the answer scripts shall be subjected for two valuations by the concerned University. The average of the total marks awarded by the two valutors for the paper, which is rounded off to the nearest integer (whole number), shall be considered for computation of the results. All the answer scripts, where the difference between two valuations is 15% and more of the total marks prescribed for the paper, shall be subjected to third valuation. The average of the best two total marks, awarded by the three evaluators for the paper, rounded off to the nearest integer (whole number), shall be considered for final computation of the results.

c. After the computation and declaration of the results, under no circumstances, revaluation is permitted. d. All the Health Universities/Institutions imparting post-graduate courses shall implement digital valuation.



 A collection of handwritten signatures in black ink, including names like 'Shankh', 'Rupamulla', and others, some with horizontal lines underneath.

d. Criteria of Evaluation of MD Emergency Medicine Course (Theory/Practical/Clinical/Viva-Voce will be same as prescribed by latest PGMEB Guidelines for evaluation of MS/MD/MCH/DM Courses published by NMC in December 2023 and any amendment will be as per NMC guidelines as and when they are published and enforced.

Bhalu
Rupendra
[Signature]
[Signature]
[Signature]
[Signature]