

Assessment Blueprint for BSc Degree in Anesthesia Program Professional Courses

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BACKGROUND AND RATIONALE

Mounting evidences keep on showing that Assessment inform learning of student and hence, it is the most critical component of any educational program. However, to enjoy its full benefit, assessment should follow evidence based recommendations on assessment and it should also be delivered in a systematic manner where students should be assessed against all predefined core competencies of an educational program. Also, it is highly recommended to assess knowledge, skill and attitude objectives using the most appropriate instrument they should be assessed on. However, while this is what should be implemented, assessment in Anesthesia BSc program is not most in time in-line with these realities. Thus, in almost all cases, students are not thoroughly assessed against all the core anesthesia competencies. However, they are allowed to graduate and be part of the health service. This might have been one of the factors that contributes for a gap in quality of anesthesia service in the long run. Also, the type of assessment employed for each learning domains of the 17 courses of BSc Anesthesia program were not made effectively. Skill assessment is the most severely affected assessment of all the learning domains, though it is the most critical learning outcome that students should be competent and effectively assessed for. The other challenge was that instructors did not have enough skill and knowledge on how assessment should be designed for each course they teach and apply the most relevant assessment instruments that best fit for each of the learning domains of the course. Because of this gap, instructors in most case end up practicing what they already know when they were students.

With this in mind and a goal to improve the overall assessment practice of BSc Anesthesia program and inform the curriculum for future revision, the initiative to develop model blueprint for anesthesia BSc program assessment was initiated with HRH project and enthusiastic faculties of Anesthesia Department in Dire Dawa University in March 2017. The blueprint was developed for all the 21 courses of BSc Anesthesia program. A content-by-process two dimensional matrix was utilized to effectively address what level of outcome are being required in relation to each content (1st dimension) and across all perioperative patient management processes (2nd dimension). In doing so each learning outcome/ objective of the 21 course are listed, the type of assessment method and instrument to use and the level of emphasis for each as per the criticality (how important the task is in terms of patient/ public health outcomes), frequency (how often they performed the task), the amount of time spent in learning the topic (the difficulty of learning the behavior) and the level of performance required by students to be competent for the task was made.

After this great initiative, a national level workshop was organized on May 2017 by Federal Ministry of health (FMOH), Ethiopian Association of Anesthetists (EAA) and Jhpiego (through its USAID funded Strengthen Human Resource for Health (S-HRH) project) to further refine, finalize and endorse the model

blueprint as a national level document to guide all assessments related with BSc Anesthesia education program. 18 Anesthesia teaching institutions (15 universities and 3 health science colleges) were part of this workshop and through the extraordinary technical and financial collaboration and input from all stakeholders involved, this model blueprint for anesthesia was developed.

This model blueprint is going to be a valuable tool for assessment of anesthesia at various level including the national level licensure examination of anesthesia graduates. Also this document could be instrumental in informing the BSc Anesthesia curriculum and thus could be used as input for future curriculum revision.

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The Higher Education institutions involved in the development of this Assessment Blueprint are:

- Adama Hospital Medical College (AHMC)
- Addis Ababa University (AAU)
- Ambo University (ABU)
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- Hawassa University (HU)
- Jimma University (JU)
- Mekele University (MU)
- Menelik Health Science College (MHSC)
- University of Gondar (UOG) and
- Wolaita Sodo University (WSU)

The members of the task force who developed this Assessment blueprint are the following: Kedir Seid (FMOH), Wogayehu Lemma (FMOH), Leulayehu Akalu (EAA/ AAU), Yohannes Molla (Technical Lead, Jhpiego), Mintwab Gelagay (Jhpiego), Yodit Kidanemariam (Jhpiego), Mihereteab Teshome (Jhpiego), Abdulrehman Tune (ARU), Abebaw Demissie (HHSC), Ababayehu Zemedkun (DU), Adugna Aregawi (AAU), Amare Hailekiros (UOG), Anduaem Assefa (AMU), Bereket Gebremeskel (WSU), Dawit Tafesse (DDU), Eyayalem Melese (AAU), Fantahun Tarekegn (BDU), Gebrehiwot Asfaw (BDU), Haftom Berhane

(MU), Hailu Yimer (UOG), Haymanot (MHSC), Kokeb Desta (DBU), Kidanemariam Tamrat (HU), Kore Menjie (MU), Merga Haile (ABU), Nesra Mohammed (AHMC), Sileshi Abiy (DU), Simegnaw Kibret (DTU), Tadesse Belayneh (UOG), Tikuneh Yetneberik (DTU), Tsegaye Demeke (AXU), Wosenyeleh Admasu (AAU) and Yesuf Ahmed (JU).

ACRONYM AND ABBREVIATION

AVPU	Alert, Verbal, Pain, Unresponsive
DM	Diabetes Mellitus
EAA	Ethiopian Association of Anesthesia
ENT	Ear, Nose and Throat
ETT	Endotracheal Tube
FMOH	Ethiopian Federal Ministry of Health
GA	General Anesthesia
GCS	Glasgow Comma Scale
GI	Gastrointestinal
GIT	Gastrointestinal Tract
GU	Genitourinary
HEIs	Higher Education Institutions
IV	Intravenous
IVVA	Intravenous Anesthetic Agent
LMA	Laryngeal Mask Airway
LO	Learning Outcome
LP	Lumbar Puncture
MCQ	Multiple Choice Questions
OBGY	Obstetrics and Gynecology
OR	Operation Room
ORT	Operation Room Technique
OSCE	Objectively Structured Clinical Examination
PACU	Post Anesthesia Care Unit
RA	Regional Anesthesia
SDL	Skill Development Laboratory

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LIST OF COURSES

The professional courses where assessment blueprint developed and included in this document are the following:

1. Introduction to Anesthesia and Operating Room Technique (ORT)
2. Airway Management
3. Fluid and Electrolyte
4. Professional Ethics and Anesthesia Hazards
5. Monitoring in Anesthesia and Equipment
6. Pharmacology for Anesthetists
7. Regional Anesthesia
8. Anesthesia for GI & GU System surgeries
9. Anesthesia for Obstetrics & Gynecology
10. Anesthesia for Pediatrics & Neonates
11. Psychiatry for Anesthetists
12. Anesthesia for ENT
13. Anesthesia for Multiple Trauma & Shocked Patient
14. Anesthesia and Co-Existing Disease
15. Anesthesia for Cardiac And Thoracic Surgery
16. ICU and Pain Management
17. Anesthesia for Neurosurgery, Psychiatric & Geriatrics

ASSESSMENT BLUEPRINTS

1. Introduction to Anesthesia and Operating Room Technique (ORT) [Anst4121]

Module Competencies	Tasks	Learning Outcomes (LOs)	Method of Assessment	% Emphasis Per LO	% Emphasis Per Task	Total Item Nos.
APPLY COMPREHENSIVE INFECTION PREVENTION AND PATIENT SAFETY MEASURES	Manage Hazards of working in OR	Define OR Hazards	MCQ	3	16	
		Classify hazards of operation room	MCQ	3		
		Prevent professional hazards of anesthesia	MCQ	6		
		Manage common OR hazards(electrical, chemical, physical and biological)	MCQ	4		
	Apply principles of Operating Room Technique (ORT)	Define ORT, physical and personal organization of OR and OR equipment	MCQ	2	17	
		Explain Infection prevention in OR	MCQ	3		
		Describe Basic principles of aseptic technique in the OR	MCQ	3		
		Demonstrate surgical scrub, gowning, gloving and wearing OR attire	OSCE	3		
		Apply principles of surgical Positioning in the OR for different surgical procedure	MCQ+OSCE	3		
		Demonstrate proper sterilization and disinfection techniques of equipment	MCQ+OSCE	3		
PROVIDE GENERAL PREANESTHETIC PATIENT CARE FOR SURGICAL PATIENT	Recognize history and scope of Anesthesia	Define professional terminologies (anesthesia, anesthesiology, Anesthetist, Anesthesiologist...)	MCQ	1	19	
		Explain history of Anesthesia	MCQ	2		
		Describe scope of Anesthesia	MCQ	1		
		Describe history of inhalational anesthetic agents	MCQ	3		
		Describe intravenous anesthetic agents	MCQ	2		
		Describe muscle relaxants	MCQ	2		
		Identify types of regional anesthesia	MCQ	3		
		Describe history of anesthesia machine, airway and monitoring equipment	MCQ+OSCE	3		
		Describe basic physics for anesthetists	MCQ	2		
		Explain steps of history taking	MCQ	3		
		Perform history taking technique	MCQ+OSCE	2		
		Explain techniques of physical examination	MCQ	2		

Module Competencies	Tasks	Learning Outcomes (LOs)	Method of Assessment	% Emphasis Per LO	% Emphasis Per Task	Total Item Nos.
	Apply Preoperative Patient Assessment Principles	Explain steps of history taking	MCQ	2	24	
		Perform history taking technique	MCQ+OSCE	2		
		Identify techniques of physical examination	MCQ	2		
		Perform physical examination	MCQ+OSCE	2		
		Classify patients based on ASA status	MCQ	2		
		Classify air way based on Mallampati classification	MCQ	2		
		Explain potential interaction of anesthetic drugs with other drugs	MCQ	2		
		Identify patients who are at risk of anesthesia complications	MCQ	3		
		Explain the rationale for the administration of pre anesthetic medications	MCQ	1		
		Explain pre anesthetic optimization principles for surgical patients	MCQ	1		
		Identify appropriate investigations for different cases	MCQ	1		
		Demonstrate techniques of IV cannulation	MCQ+OSCE	2		
		Demonstrate consent taking and recording	MCQ + OSCE	2		
		Prepare the necessary equipment before conducting General/regional/ Anesthesia	MCQ+OSCE	2		
	Apply Intra operative Anesthetics Patient care Principles	Prepare the necessary drugs before conducting General /Regional /Anesthesia	MCQ+OSCE	2	16	
		Demonstrate stapes of inducing anesthesia for surgical patient	MCQ+OSCE	2		
		Demonstrate techniques of intubation	MCQ+OSCE	2		
		Apply the minimum standard monitoring on surgical patient	MCQ+OSCE	2		
		Explain the rationale for intra operative monitoring	MCQ+OSCE	1		
		Describe the principles to maintain intra operative Anesthesia	MCQ	2		
		Describe the principles of intra operative emergence on surgical patient	MCQ	1		
		Give appropriate patient information during transfer of patient from OR to PACU for recovery room health professionals	MCQ	1		
		Participate in the preparation of emergency resuscitation drugs and equipment for PACU patient	MCQ	1		
		Assist vital sign monitoring and recording of PACU patients	MCQ	2		

Module Competencies	Tasks	Learning Outcomes (LOs)	Method of Assessment	% Emphasis Per LO	% Emphasis Per Task	Total Item Nos.
	Apply management of post-operative surgical patients	Assist management of post-operative anesthesia and surgical complication of PACU patients	MCQ	2	8	
		Describe principles of post-operative pain management	MCQ	1		
		Describe patient discharge criteria from PACU	MCQ	2		
	Total			100	100	0

2. Airway Management [Anst4122]

Module Competencies	Tasks	Learning Outcome (LO)	Method of Assessment	% Emphasis Per LO	% Emphasis Per Task	Total Item Nos.
PROVIDE COMPRHENSIVE PERIOPERATIVE AIRWAY MANAGEMENT CARE FOR A NEEDY PATIENT	Apply scientific Principles in the Management of airway	Describe normal airway structure relevant to airway management	MCQ + OSCE	6	18	
		Explain relevant physiology pertaining to airway management	MCQ	6		
		Describe basic pharmacology pertaining to airway management	MCQ	6		
	Assess Airway Preoperatively	Explain procedural techniques of airway evaluation parameters	MCQ	6	26	
		Assess patient airway using different airway evaluation techniques	MCQ + OSCE	7		
		Interpret airway evaluation parameters grading to predict difficult airway	MCQ	6		
		Prepare patients for different airway management techniques	MCQ	7		
	Prepare airway and ancillary Equipment required for the management of airway	Identify airway & ancillary equipment used in the management of normal & difficult airway	MCQ + OSCE	4	17	
		Explain parts and structures of different airway management equipment	MCQ + OSCE	4		
		Assemble and disassemble equipment used for normal and difficult airway management	OSCE	4		
		Prepare airway & ancillary equipment for purpose of normal & difficult airway management	MCQ + OSCE	5		
	Manage patient Airway with face mask	Manage normal airway without intubation	MCQ + OSCE	2	8	
		Insert nasotracheal and orotracheal airways	OSCE	3		
		Perform Bag Mask Ventilation	OSCE	2		
		Recognize and manage complications associated with utilizations of oral & nasal airways	MCQ	1		
	Manage patients' airway with ETTI	Perform endotracheal intubation (nasal and oral)	OSCE	5	16	
		Explain confirmation techniques for successful intubation	MCQ	3		
		Recognize and manage complications associated with endotracheal intubations	MCQ	2		
		Explain criteria and methods for extubation of endotracheal tubes	MCQ	3		
		Recognize and manage complications associated with extubation of endotracheal tubes	MCQ	3		
Manage Patient Airway with LMA	Perform LMA Insertion	OSCE	2	6		
	Explain confirmation techniques for successful LMA Insertion	MCQ	1			
	Perform LMA removal	OSCE	2			
	Recognize and manage complications associated with LMA	MCQ	1			

Module Competencies	Tasks	Learning Outcome (LO)	Method of Assessment	% Emphasis Per LO	% Emphasis Per Task	Total Item Nos.
	Manage Difficult Airway	Discuss perioperative airway management concerns of predicted difficult airway cases	MCQ+OSCE	2	9	
		Describe different modalities of difficult air way management	MCQ	3		
		Manage difficult airway through acceptable national/ international guidelines	MCQ	3		
	Total			100	100	

3. Fluid, Electrolyte, Acid base balance And Blood Transfusion [Anst4124]

Module Competencies	Tasks	Learning Outcome (LO)	Method of Assessment	% Emphasis Per LO	% Emphasis Per Task	Total Item Nos.
MANAGE FLUID, ELCTROLYTE AND ACID BASE DISTURBANCES PERI-OPERATIVELY	Apply scientific Principles in the Management of fluid, electrolyte & acid base disturbances	Explain physiology of fluid and electrolyte	MCQ	5	20	
		Describe the basic physiology of blood	MCQ	5		
		Explain acid base balance	MCQ	5		
		Explain body fluid and electrolyte regulation	MCQ	5		
	Manage fluid and blood administrations perioperatively	Identify body fluid abnormalities	CBD + PCE	5	40	
		Discuss types of fluid and fluid pharmacology	MCQ + VIVA	5		
		Manage fluid therapy	DOP & PCE + OSCE	6		
		Identify blood components	MCQ	4		
		Explain indication of blood transfusion	MCQ	3		
		Transfuse appropriate blood components	DOP + OSCE	6		
		Recognize blood transfusion risks	MCQ + ESSAY	4		
		Manage blood transfusion complications	CBD + MCQ	7		
	Manage electrolyte disturbances perioperatively	Diagnose electrolyte abnormalities	PCE, MCQ + OSCE	10	20	
		Mange electrolyte imbalances	PCE + OSCE	10		
	Manage acid base disturbances perioperatively	Explain acid-base balance	MCQ	4	20	
		Diagnose acid base disturbances	CBD, PCE, OSCE	6		
Manage acid base disturbances		PCE, CBD+ OSCE	10			
Total				100	100	

4. Professional Ethics and Anesthesia Hazards [Anst4125]

Module Competencies	Tasks	Learning Outcomes (LOs)	Method of Assessment	% Emphasis Per LO	% Emphasis Per Task	Total Item Nos.
FUNCTION WITHIN LEGAL AND ETHICAL FRAMEWORK OF ORGANIZATION	Apply ethical principles and theories in the perioperative care of a patient	Define profession, professional & professionalism	MCQ	3	20	
		Explain basic principles and theories of ethics	MCQ+ESSAY	8		
		Recognize ethical issues associated with the practice of anesthesia	MCQ	4		
		Manage patients with in ethical frame work	DOP+MCQ	5		
	Recognize Malpractice and Negligence with aspects of legal practice	Analyze medico legal problems	MCQ	5	36	
		Analyze malpractice and negligence	MCQ	8		
		Recognize Code of Ethics for the Anesthetist	MCQ+ Essay	8		
		Analyze Scope of practice per the national standard	MCQ+ ESSAY	5		
	Produce complete and accurate documentation	Analyze the component and importance of anesthetic record	MCQ	9	24	
		Describe component of informed Consent	MCQ	5		
Utilize Anesthesia record sheet and informed consent legally & ethically		DOP+ MCQ	9			
MANAGE ANESTHESIA RELATED PERIOPERATIVE HAZARDS	Manage anesthetic Hazards	Explain Potential adverse health effects of exposure to Anesthesia hazard and source of operating room contamination	MCQ+ESSAY	8	20	
		Explain strategies to minimize professional hazards of anesthesia	MCQ	7		
		Complied National Institute for Occupational Health & Safety (NIOSH) Recommendations	MCQ	5		
	Total				100	100

5. Monitoring in Anesthesia and Equipment [Anst4126]

Module Competencies	Task	Learning Outcomes (LOs)	Method of Assessment	% Emphasis Per LO	% Emphasis Per Task	Total Item No.
UTILIZE MONITORING AND OTHER ANESTHETIC DEVICES AND EQUIPMENT	Utilize Anesthesia Machine safely	Describe medical gas sources	MCQ	3	21	
		Explain cylinder parts	MCQ	2		
		Explain important parts of anesthesia machine	MCQ	5		
		Solve routine anesthesia machine malfunction	MCQ + OSCE	4		
		Perform routine anesthesia machine functionality test	MCQ + OSCE	7		
	Utilize patient monitoring Devices perioperatively	Explain what patient monitoring is	MCQ	2	42	
		Explain standards of patient monitoring	MCQ	5		
		Explain the importance of physics in monitoring practice	MCQ	3		
		Describe the purpose of the anesthetic record	MCQ	5		
		Manipulate different electronic and non-electronic monitoring devices	MCQ + OSCE	6		
		Monitor the patients system by system	MCQ + OSCE	8		
		Read and interpret variables detected by those monitoring equipment	MCQ + OSCE	7		
	Monitor patients in the absence of monitoring instruments	MCQ + OSCE	6			
	Utilize anesthetic and ancillary equipment	Prepare emergency drugs required for the provision of safe anesthesia	OSCE	4	37	
		Explain the working mechanisms and indications of fiberoptic scope and defibrillator	MCQ	2		
		Explain scavenging system and its rational for use	MCQ	3		
		Explain the working mechanism and features of different anesthetic breathing systems	MCQ	10		
		Explain the working mechanism and features of anesthetic machine ventilator	MCQ	3		
		Explain the requirement for manual resuscitator (ambu-bag) with machine at all times	MCQ	2		
		Explain the physiologic significance and working mechanisms of humidification devices	MCQ	4		
Explain requirements of suction equipment in anesthesia practice		MCQ	3			
Explain latex allergy and its significance in use of anesthetic equipment		MCQ	3			
Explain the process for cleaning, disinfecting and sterilizing anesthetic and ancillary equipment		MCQ	3			
Total				100	100	0

6. Pharmacology for Anesthetists [Anst4127]

Module Competencies	Task	Learning Outcome (LO)	Method of Assessment	% Emphasis Per LO	% Emphasis Per Task	Total Item No.
UTILIZE ANESTHETIC AND ADJUVANT MEDICATIONS PERI-OPERATIVELY	Apply basic principles of Pharmacology in the utilization of drugs	Describe the principles of pharmacodynamics, pharmacokinetics, teratogenicity and toxicity of drugs	MCQ	1	5	
		Order and administer drugs for perioperative optimization & preparation of surgical patients.	MCQ	1		
		Outline when to continue, discontinue and change medications used for the treatment of co-existing diseases	MCQ/ Essay	1		
		Order and administer post-operative pharmacologic therapy for postoperative patients with pain, nausea vomiting, allergic reaction etc...	MCQ	1		
		Rationalize the use to premedication drugs	MCQ	1		
	Utilize Intravenous Anesthetics safely	Describe the pharmacokinetics, pharmacodynamics of different classes of IVAA	MCQ	2	13	
		Describe the ideal properties of IVAA	MCQ	1		
		State the different systemic effects of commonly used IVAA	MCQ/ Matching	3		
		Outline the indications, contraindications & adverse effects of commonly used IVAA	MCQ/ Essay	4		
		Outline the right dose, route & concentration of commonly used IVAA	MCQ/ Matching	3		
	Utilize Inhalational Anesthetics safely	Describe the pharmacokinetics, pharmacodynamics of different of IAA	MCQ	2	14	
		Describe the ideal properties of IAA	MCQ/ Matching	1		
		Describe the concepts of MAC and factors affecting MAC	MCQ/ Matching	3		
		State the different systemic effects of commonly used IAA	MCQ/ Matching	3		
		Outline the indications, contraindications & adverse effects of commonly used IAA	MCQ/ Essay	3		
		Outline the right dose, route & concentration of commonly used IAA	MCQ/ Essay	2		
	Utilize Local Anesthetics safely	Describe the pharmacokinetics, pharmacodynamics of different classes LA	MCQ	1	12	
		explain the different types of local anesthetics and their anesthetic implications	MCQ/ Matching	1		
		Outline the mechanism of action of local anesthetics along with peripheral nerve anatomy	MCQ/ Matching	2		
		Outline the structure-activity relationship for local anesthetics	MCQ/ Essay	2		
		Outline the indications, contraindications & adverse effects of commonly used IVAA	MCQ	2		
Recognize the importance of local anesthetic additives for clinical practice		MCQ/ Essay	2			

Module Competencies	Task	Learning Outcome (LO)	Method of Assessment	% Emphasis Per LO	% Emphasis Per Task	Total Item No.
		Identify and manage local anesthetic toxicity	MCQ/ Essay	2		
	Utilize Muscle Relaxants safely	Describe the pharmacokinetics, pharmacodynamics of different classes of muscle relaxants	MCQ/ Matching	1	13	
		Describe the neuromuscular anatomy physiology & mechanism of action of (muscle relaxants)	MCQ/ Matching	2		
		State the different systemic effects of commonly used muscle relaxants	MCQ/ Essay	2		
		Outline the indications, contraindications & adverse effects of commonly used MRs	MCQ/Essay	2		
		Outline the right dose, route & concentration of commonly used MRs	MCQ/Matching	2		
		Explain Monitoring of neuromuscular blockade	MCQ/ Matching	2		
		Describe principles & purpose of antagonism of neuromuscular blockade	MCQ	2		
		Utilize Non-Steroidal Anti Inflammatory Medications safely	Describe the Mechanism of action for different types NSAIDs including Paracetamol	MCQ/ Matching		1
	Rationalize the role of NSAIDs in the WHO analgesic ladder for the management of perioperative pain		MCQ/ Matching	2		
	Outline the systemic effects of different types of NSAIDs		MCQ/ Matching	2		
	State the indications, contraindications and side effects of NSAIDs		MCQ/ Matching	1		
	Utilize Opiodal analgesics safely & effectively	Describe the distribution of opioid receptors in the body along with MoA of opioids	MCQ/ Matching	2	11	
		Describe the pharmacokinetics & pharmacodynamics of different opioid analgesic agents	MCQ/ Matching	2		
		State the systemic effects of opioids	MCQ/ Matching	2		
		Outline the indications, contraindications and adverse effects of opioids	MCQ/ Matching	2		
		Explain the safe usage including rate and dangers of addiction of commonly used opioids	MCQ	1		
		Rationalize the use of opioid antagonists along with their mechanism of action	MCQ/ Matching	2		
	Utilize cholinergic and anticholinergic drugs for the safe management of the surgical patient	Describe the pharmacokinetics, pharmacodynamics of different classes of cholinergic and anticholinergic drugs	MCQ/ Matching	1	6	
		Outline the different types of cholinergic and anticholinergic drugs along with their mechanism of action	MCQ/ Matching	1		
		Outline the systemic effects of cholinergic and anticholinergic drugs	MCQ/ Matching	2		
		Identify the indications, contraindications and systemic adverse effects of cholinergic and anticholinergic	MCQ/ Matching	2		

Module Competencies	Task	Learning Outcome (LO)	Method of Assessment	% Emphasis Per LO	% Emphasis Per Task	Total Item No.
	Utilize benzodiazepines for the supplementation and treatment of surgical patients	Describe the pharmacokinetics & dynamics of different classes of commonly used BDZs	MCQ/ Matching	1	5	
		Describe the mechanism of action of BDZs	MCQ/ Matching	1		
		Outline the use of different classes of BDZs and their clinical use	MCQ/ Matching	2		
		Outline the side effects of BDZs and the means for antagonizing BDZs overdose	MCQ/ Matching	1		
	Utilize adrenergic agonist and Medications safely	Describe the pharmacokinetics, pharmacodynamics of different classes of commonly used adrenergic agonist agents	MCQ/ Matching	2	12	
		Elaborate the role of different receptors for adrenergic drugs along with their mechanism of action of commonly used adrenergic agonist drugs	MCQ/ Matching	3		
		Prepare different vasoactive drugs with different concentration along with their infusion dosing	MCQ/ Matching	2		
		Outline the systemic effects of adrenergic agonist drugs	MCQ/ Matching	2		
		Identify the indications, contraindications and systemic adverse effects of commonly used adrenergic agonist drugs	MCQ/ Matching	3		
	Utilize Antihypertensive safely	Describe the different stages of HTN along with the effect of HTN on the body	MCQ/ Matching	1	11	
		Describe the different therapeutic regimens for patients with hypertension	MCQ/ Matching	1		
		Describe the pharmacodynamics and pharmacokinetics of antihypertensive drugs used in clinical practice	MCQ/ Matching	2		
		Outline the mechanism of action of antihypertensive drugs including diuretics	MCQ/ Matching	3		
		Outline the systemic effects of antihypertensive drugs	MCQ/ Matching	2		
		Identify the indications, contraindications and systemic adverse effects of commonly used antihypertensive medications	MCQ/ Matching	2		
	Utilize Antiarrhythmic safely	Explain classes of anti-arrhythmic agents	MCQ/ Matching	2	5	
		Describe the mechanism by which anti-arrhythmic agents work	MCQ/ Matching	2		
		State the indications contraindications and systemic effects of antiarrhythmic drugs	MCQ/ Matching	1		
	Utilize glucocorticoids safely in the perioperative patient care	Describe the secretory roles of the adrenal medulla and cortex	MCQ/ Matching	2	6	
		Describe the mechanism of action of glucocorticoids	MCQ/ Matching	1		
Outline the systemic effects of glucocorticoids		MCQ/ Matching	1			
State complications of glucocorticoids administration along with management options		MCQ/ Matching	2			
Total				100	100	0

7. Regional Anesthesia [Anst4132]

Module Competencies	Tasks	Learning Outcomes (LOs)	Method of Assessment	% Emphasis Per LO	% Emphasis Per Task	Total Item No.
PROVIDE COMPREHENSIVE PERIOPERATIVE ANESTHETIC CARE FOR PATIENTS UNDERGOING SURGERY UNDER REGIONAL ANESTHESIA	Clinically Intervene RA patient through application of basic science principles	Define the different types of regional anesthesia	MCQ	1	16	
		Identify the distinctive features of regional anesthesia from GA	MCQ	1		
		Describe clinically relevant anatomy for performing regional anesthesia	MCQ	4		
		Describe pain pathways and dermatomes	MCQ	4		
		Explain pharmacology of local anesthetics for regional anesthesia	MCQ	3		
		Identify ways to improve the intensity and duration of local anesthetic agents	MCQ + OSCE	3		
	Perform Preanesthetic Assessment, Prepare & Optimize RA patients	Describe the concerns of anticoagulation in performing regional anesthesia	MCQ	3	20	
		Perform preoperative evaluation	MCQ + OSCE	5		
		Prepare relevant equipment and drugs for regional anesthesia	MCQ + OSCE	4		
		Identify indication & contraindication of regional anesthesia	MCQ	6		
		Identify optimum position for specific regional anesthesia	MCQ	2		
	Manage regional Anesthesia Intraoperatively	Monitor patients with regional anesthesia intraoperatively	MCQ	4	50	
		Perform spinal block	MCQ+ OSCE	7		
		Manage patients who already had epidurals	MCQ + OSCE	4		
		Perform caudal anesthesia	MCQ + OSCE	5		
		Perform different peripheral nerve blocks using the loss of resistance technique	MCQ + OSCE	10		
		Prevent the complication of regional anesthesia	MCQ + OSCE	5		
		Identify the complications of regional block	MCQ + OSCE	7		
		Manage complications of regional blocks	MCQ + OSCE	8		
	Provide Postoperative care for RA patients	Manage post-operative complications of regional blocks	MCQ + OSCE	5	14	
		Describe discharge criteria from PACU	MCQ	5		
		Monitor patients with regional anesthesia postoperatively	MCQ	4		
	Total				100	100

8. Anesthesia for Abdominal & Genitourinary Surgeries [Anst4133]

Module Competencies	Tasks	Learning Outcomes (LOs)	Method of Assessment	% Emphasis Per LO	% Emphasis Per Task	Total Item No.	
PROVIDE COMPRHENSIVE PERIOPERATIVE ANESTHETIC CARE FOR GASTRO- INTESTINAL TRACT SURGICAL PATIENTS UNDERGOING SURGERY UNDER GENERAL OR REGIONAL ANETSHEZIA	Clinically intervene GIT surgical patients through application of basic science principles	Describe Physiology and Anatomy of GIT	MCQ	1	3		
		Describe common Pathophysiology of GIT disorders (Achalasia, esophageal spasm, hiatal hernia. intestinal obstruction appendicitis, Perforated PUD, sigmoid volvulus, colonic Cancer, anorectal surgeries),.)	MCQ	1			
		Interpret common lab investigations for GIT disorder	MCQ	1			
	Perform Preanesthetic Assessment, Prepare & Optimize GIT surgical patients	Perform Preanesthetic Assessment, Prepare & Optimize GIT surgical patients	Describe the preoperative evaluation, preparation and management for GIT procedure/ Bariatric Surgery	MCQ	5	17	
			Perform Physical examination for patients with GIT surgeries	MCQ +OSCE	2		
			Order and interpret laboratory investigation for GIT Surgeries	MCQ	1		
			Identify anesthetic technique/plan for esophageal surgeries (Achalasia, esophageal spasm, hiatal hernia...)	MCQ	2		
			Identify anesthetic technique/plan for acute abdominal surgeries (intestinal obstruction, appendicitis, Perforated PUD)	MCQ	2		
			Identify anesthetic technique/plan for colorectal surgeries (sigmoid volvulus, colonic Cancer, anorectal surgeries)	MCQ	2		
			Identify anesthetic technique/plan for GI procedures	MCQ	2		
			Identify patients who are at risk of aspiration	MCQ	2		
			Describe the measures that should be taken to prevent aspiration	MCQ	2		
			Identify patients who are at risk of aspiration	MCQ	2		
	Manage Intraoperative anesthesia for GIT surgical patients	Manage Intraoperative anesthesia for GIT surgical patients	Identify intraoperative complication of GIT surgeries	MCQ	2	15	
			Apply intra operative Monitoring for patients undergoing GIT surgeries	MCQ	2		
			Identify various patient positions and the hazards associated with each Procedure	MCQ+OSCE	2		
			Describe safe and smooth perioperative anesthesia consideration for GI surgery (intestinal obstruction, appendicitis, Perforated PUD)	MCQ	4		
Develop safe and smooth anesthesia plan for full stomach			MCQ	1			
Manage intra operative aspiration			MCQ	1			
Analyze safe intraoperative anesthesia consideration for Laparoscopic Surgery			MCQ	2			

Module Competencies	Tasks	Learning Outcomes (LOs)	Method of Assessment	% Emphasis Per LO	% Emphasis Per Task	Total Item No.
	Provide Postoperative care for GIT surgical patients	Analyze safe intraoperative anesthesia consideration for obesity/ Bariatric Surgery	MCQ	1	5	
		Identify common postoperative complications associated with GI surgeries	MCQ	1		
		Manage post-operative complications associated with GI surgeries	MCQ	1		
		Develop safe and effective postoperative complications management plan for GIT surgeries	MCQ	1		
		Manage postoperative Pain	MCQ	1		
		Analyze implications of routine postoperative monitoring/ follow-up on patient outcome	MCQ	1		
PROVIDE COMPREHENSIVE PERIOPERATIVE ANESTHETIC CARE FOR HEPATIC SURGICAL PATIENTS UNDERGOING SURGERY UNDER GENERAL OR REGIONAL ANESTHESIA	Clinically intervene Hepatic surgical patients through application of basic science principles	Describe Physiologic Anatomy and pathophysiology of Hepatobiliary system	MCQ	2	6	
		Explain Effects of Anesthesia & Surgery on hepatic Function	MCQ	2		
		Explain effect of Hepatic and Hepatobiliary Dysfunction on Anesthetic drug	MCQ	1		
		Explain Effect of Anesthetics & Surgery on Hepatic Function	MCQ	1		
	Perform Preanesthetic Assessment, Prepare & Optimize Hepatic surgical patients	Identify anesthetic technique/plan for Hepatobiliary procedure	MCQ	2	5	
		Describe the preoperative evaluation, preparation and management for Hepatobiliary	MCQ	2		
		Interpret liver function test	MCQ	1		
	Manage Intraoperative anesthesia for Hepatic surgical patients	Identify intraoperative complication & Monitoring patient for hepatobiliary surgery	MCQ	2	10	
		Identify various patient positions and the hazards associated with hepatobiliary surgery	MCQ	2		
		Distinguish intraoperative anesthesia considerations for Hepatobiliary surgeries/ pancreatic surgeries	MCQ	2		
		Manage patients under go Hepatobiliary surgeries/ pancreatic surgeries	MCQ	2		
		Manage liver disorders patients who undergo biliary and non-biliary surgery	MCQ	2		
	Provide Postoperative care for Hepatic surgical patients	Identify common postoperative complications associated with Hepatobiliary surgeries	MCQ	1	5	
		Manage postoperative complications associated with Hepatobiliary surgeries	MCQ + OSCE	1		
		Develop safe and effective postoperative complications management plan for Hepatobiliary surgeries	MCQ	1		
		Perform routine postoperative monitoring/ follow up on patient outcome for Hepatobiliary surgeries	MCQ	1		

Module Competencies	Tasks	Learning Outcomes (LOs)	Method of Assessment	% Emphasis Per LO	% Emphasis Per Task	Total Item No.
		Identify common postoperative complications associated with Hepatobiliary surgeries	MCQ	1		
PROVIDE COMPREHENSIVE PERIOPERATIVE ANESTHETIC CARE FOR GI and GU SURGICAL PATIENTS UNDERGOING SURGERY UNDER GENERAL OR REGIONAL ANESTHESIA	Clinically intervene GU surgical patients through application of basic science principles	Describe Physiology and Anatomy of GU system	MCQ	2	10	
		Describe the pathophysiology of GU disorders (Renal failure, Urolithiasis, BPH)	MCQ	2		
		Interpret the result of renal function test	MCQ	1		
		Explain Effects of Anesthesia & Surgery on Renal Function	MCQ	3		
		Explain Effect of Renal Dysfunction on Anesthetic Agents(Pharmacokinetics)	MCQ	2		
	Perform Preadmission Assessment, Prepare & Optimize GU surgical patients	Describe the preoperative evaluation, preparation and management for GU procedures	MCQ + OSCE	2	11	
		Perform Physical examination for patients with GU surgeries	MCQ + OSCE	2		
		Order and interpret laboratory investigation for GU Surgeries	MCQ	1		
		Identify anesthetic technique/plan for GU Surgeries (Nephrolithotomy, Nephrectomy, Prostatectomy, Urethroplasty, Ureteric surgeries)	MCQ	4		
		Identify anesthetic technique/plan for GU procedure	MCQ + OSCE	2		
	Manage Intraoperative anesthesia for GU surgical patients	Analyze safe intraoperative anesthesia consideration for Genitourinary Surgery (Nephrolithotomy, Nephrectomy, Prostatectomy, Urethroplasty, Ureteric surgeries)	MCQ	3	10	
		Identify intraoperative complication of GU surgeries	MCQ	1		
		Apply intra operative monitoring for patients undergoing GU surgeries	MCQ + OSCE	2		
		Identify intraoperative complication of GU surgeries	MCQ	1		
		Analyze safe intraoperative anesthetic considerations for patients with renal failure coming for non-GU surgeries.	MCQ	3		
	Provide Postoperative care for GI and GU surgical patients	Identify common postoperative complications associated with GU surgeries	MCQ	1	4	
		Manage post-operative complications associated with GU surgeries	MCQ + OSCE	1		
		Develop safe and effective postoperative complications management plan for GU surgeries	MCQ	1		
		Analyze implications of routine postoperative monitoring/ follow-up on patient outcome	MCQ	1		
	Total				100	100

9. Anesthesia for Obstetrics & Gynecology Surgery [Anst4134]

Module Competencies	Tasks	Learning Outcomes (LOs)	Method of Assessment	% Emphasis Per LO	% Emphasis Per Task	Total Item No.
PROVIDE COMPREHENSIVE PERIOPERATIVE ANESTHETIC CARE FOR OBSTETRIC AND GYNECOLOGIC PATIENTS UNDERGOING SURGERY/ ANESTHESIA	Clinically intervene OBGY patients through application of basic science principles	Explain anatomic changes during pregnancy affecting anesthetic management	MCQ	4	24	
		Explain physiologic changes during pregnancy affecting anesthetic management	MCQ	5		
		Describe utero- placental and fetal circulation	MCQ	2		
		Identify and manage high risk pregnancies	MCQ	3		
		Describe management of common respiratory, cardiac and endocrine disorders during pregnancy	MCQ	3		
		Explain anesthetic risk in obstetric patient	MCQ	2		
		Explain systemic and adverse effects of anesthetic and adjuvant medications	MCQ	3		
		Explain factors affecting placental drug transfer and fetal exposure to anesthetic drugs	MCQ	2		
		Explain the pathophysiology of common gynecologic diseases				
	Perform Preanesthetic Assessment, Prepare & Optimize OBGY patients	Perform pre-operative evaluation for OBGY clients	MCQ + OSCE	3	23	
		Explain essential pre-anesthetic lab examinations with their respective interpretations	MCQ	2		
		Administer prophylactic medications, appropriate fluid and blood for obstetric patients	MCQ	4		
		Explain management of labor pain	MCQ	3		
		Set management plan for obstetric difficult airway	OSCE + MCQ	3		
		Develop appropriate anesthesia management plan based on maternal and fetal condition	MCQ	5		
		Identify and optimize patients presenting for pelvic gynecologic surgery (DVT, neuropathy...)	MCQ	3		
	Manage Intraoperative anesthesia for OBGY patients	Manage general and or regional anesthesia for elective cesarean section	OSCE + MCQ	5	39	
		Manage general and or regional anesthesia for emergency cesarean section	OSCE + MCQ	8		
		Describe anesthetic considerations for high risk patients undergoing obstetric surgery	MCQ	5		
		Manage anesthesia for pregnant woman undergoing non-obstetric surgery	MCQ	5		
		Manage anesthesia for common gynecologic surgeries/ procedures	MCQ	7		
		Provide neonatal resuscitation for a newborn	MCQ + OSCE	6		



Module Competencies	Tasks	Learning Outcomes (LOs)	Method of Assessment	% Emphasis Per LO	% Emphasis Per Task	Total Item No.
	Provide Postoperative care for OBGY patients	Manage common postoperative complications of OBGY procedures (pain, nausea & vomiting, hypotension)	MCQ	10	14	
		Manage common postoperative complication of regional anesthesia	MCQ	4		
	Total				100	100

10. Anesthesia for Pediatrics & Neonates [Anst4135]

Module Competencies	Tasks	Learning Outcomes (LOs)	Method of Assessment	% Emphasis Per LO	% Emphasis Per Task	Total Item No.
PROVIDE COMPRHENSIVE PERIOPERATIVE ANESTHETIC CARE FOR PEDIATRIC SURGICAL PATIENTS UNDERGOING SURGERY UNDER GENERAL OR REGIONAL ANESTHESIA	Clinically intervene Pediatric surgical patients through application of basic science principles	Define pediatrics anesthesia	MCQ	1	21	
		Describe the pathophysiology of common medical pediatric conditions	MCQ	3		
		Explain the pathophysiology of common surgical pediatric conditions	MCQ	3		
		Explain cardiovascular and respiratory adaptation of new born	MCQ	2		
		Elaborate anatomical change of pediatrics patients when compare to adult patients	MCQ	3		
		Formulate Fluid and electrolyte management of neonate and pediatrics patients	MCQ + OSCE	3		
		Describe Thermoregulation mechanism of pediatrics patients	MCQ	3		
		Explain pharmacological consideration of pediatrics patients	MCQ	3		
	Perform Preanesthetic Assessment, Prepare & Optimize Pediatric surgical patients	Describe principles of pediatrics anesthesia	MCQ	2	25	
		Perform preoperative evaluation for pediatric patients	MCQ + OSCE	5		
		Prepare relevant equipment and drugs for pediatrics anesthesia	MCQ + OSCE	5		
		Identify patients who are at risk of aspiration and techniques to avoid it	MCQ + OSCE	3		
		Identify investigation modalities with the existing diagnosis	MCQ	5		
		Prepare patient for anesthesia	MCQ	5		
	Manage Intraoperative anesthesia for Pediatric surgical patients	Formulate induction and management options for pediatric patients	MCQ + OSCE	6	39	
		Perform endotracheal intubation for pediatric patients	MCQ + OSCE	5		
		Monitor fluid and electrolyte status of pediatrics patients	MCQ + OSCE	4		
		Monitor pediatrics patients intraoperatively	MCQ	5		
		Formulate extubation criteria	MCQ	4		
		Manage intraoperative complication of pediatrics patients	MCQ	6		
		Discuss perioperative anesthesia considerations for specific medical pediatric conditions	MCQ	4		
Discuss perioperative anesthesia considerations for specific surgical pediatric conditions		MCQ	5			

		Manage postoperative complication of pediatrics patients	MCQ	4		
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Module Competencies	Tasks	Learning Outcomes (LOs)	Method of Assessment	% Emphasis Per LO	% Emphasis Per Task	Total Item No.
	Provide Postoperative care for Pediatric surgical patients	Describe discharge criteria for pediatric patients from PACU	MCQ	3	15	
		Describe ICU admission criteria for pediatric patients from OR	MCQ	2		
		Monitor pediatrics patients postoperatively	MCQ + OSCE	3		
		Formulate postoperative pain management option for pediatric patients	MCQ + OSCE	3		
	Total				100	100

11. Psychiatry for Anesthetists [Psyc4136]

Module Competencies	Tasks	Learning Outcomes (LOs)	Method of Assessment	% Emphasis Per LO	% Emphasis Per Task	Total Item No.
PROVIDE COMPREHENSIVE PSYCHIATRIC CARE FOR COMMONLY HAPPENING PSYCHIATRIC DISORDERS WITH SIGNIFICANCE TO ANESTHETIC MANAGEMENT	Introduction to Mental Health	Define Mental health & mental disorder	MCQ	2	20	
		List Causes of mental disorder	MCQ	4		
		Explain History taking technique in psychiatry	MCQ	4		
		Explain techniques of Mental state examination	MCQ	4		
		Describe Signs and Symptoms of mental illness	MCQ	6		
	Mange common Pschiatric Disorders	Explain common Anxiety disorders	MCQ	6	45	
		Describe Mood disorder and its types	MCQ	6		
		Explain Schizophrenia, its clinical features, DDX and its treatment	MCQ	7		
		Describe Alcohol and other substance related disorders	MCQ	6		
		Explain classifications of Somatoform disorders and its treatment	MCQ	5		
		Describe Types of personality disorder, its Clinical features and Treatment	MCQ	8		
	Epilepsy and its Psychiatric aspects	Define Epilepsy	MCQ	3	10	
		Explain Clinical feature and Treatments of Epilepsy	MCQ	7		
	Manage Mentally ill patients	List commonly used Antidepressants	MCQ	6	25	
		List commonly used Antipsychotics	MCQ	6		
		List commonly used Anxiolytics	MCQ	6		
		Describe use of anesthesia for electroconvulsive therapy (ECT)	MCQ	7		
	Total				100	100

12. Anesthesia for ENT, Ophthalmic and Day Case Surgery [Anst5162]

Module Competencies	Tasks	Learning Outcomes (LOs)	Method of Assessment	% Emphasis Per LO	% Emphasis Per Task	Total Item No.
PROVIDE COMPREHENSIVE PERIOPERATIVE ANESTHETIC CARE FOR EAR NOSE AND THROAT SURGICAL PATIENTS UNDERGOING SURGERY UNDER GENERAL OR REGIONAL ANESTHESIA	Clinically intervene ENT surgical patients through application of basic science principles	Describe Anatomy and physiology of the eye	MCQ	2	14	
		Describe Anatomy of Nose, throat and Ear	MCQ	2		
		Define intraocular pressure and oculocardiac reflex	MCQ	3		
		Explain coagulation status of ENT surgical patient	MCQ	2		
		Describe Lefort classification and its implication of anesthesia in trauma patients	MCQ	2		
		Describe the principles of (History, rationale, Facility, Criteria's for Licensing and merit demerit day case surgery	MCQ	3		
	Perform Preanesthetic Assessment, Prepare & Optimize ENT surgical patients	Perform preoperative evaluation (with emphasis to obstructive sleep apnea, congenital abnormalities) for ENT, ophthalmic and day case surgery patients	MCQ + OSCE	5	25	
		Assess patient airway using different airway evaluation techniques for ENT, ophthalmic and day case surgery patients	MCQ + OSCE	3		
		prepare different airway equipment for ENT, ophthalmic and day case surgery patients	MCQ + OSCE	4		
		Request and interpret diagnostic studies to prepare patient for ENT, ophthalmic and day case surgery patients	MCQ	3		
		Describe basic consideration for day case anesthesia service	MCQ	3		
		Obtain informed consent	MCQ	2		
		Optimize patients for ENT ophthalmic and day case surgery patients	MCQ	3		
		Describe the pharmacological and non-pharmacological optimization strategies for day care surgery	MCQ	2		
	Manage Intraoperative anesthesia for ENT surgical patients	Manage intraocular pressure and oculocardiac reflexes	MCQ	3	45	
		Provide Anesthesia based on indication for various types of Ophthalmic(strabismus surgery, open eye full stomach)surgical patients	MCQ + OSCE	3		
		Perform regional anesthesia(retro bulbar and per bulbar blocks) for different eye procedure	MCQ	2		
		Describe the effects of ophthalmic drugs on anesthetic agents	MCQ	2		
		Explain the challenges and pre questions of open eye / penetrating eye injury / in full stomach patients	MCQ	3		

Module Competencies	Tasks	Learning Outcomes (LOs)	Method of Assessment	% Emphasis Per LO	% Emphasis Per Task	Total Item No.
		Provide Anesthesia based on indication for various types of (ear canal and tympanic membrane disorder, Myringotomy and tube insertion, Middle ear and mastoidectomy and Tympanoplasty) surgeries	MCQ	6		
		Practice close monitoring in shared airway procedure & control of bleeding	MCQ	5		
		Describe the concerns of nitrous oxide during ear surgery and anesthesia	MCQ	2		
		Provide Anesthesia based on indication for various types of nose (External and internal nasal deformity and Maxillofacial trauma) surgical patients	MCQ	5		
		Provide Anesthesia based on indication for various types of throat (Adenotonsillar hypertrophy, Pediatric Obstructive sleep apnea syndrome and Adenotonsilectomy) surgical patients	MCQ	4		
		Provide Anesthesia based on indication for various types of Pediatric airway emergency (Foreign body aspiration, Epiglottitis, Esophagoscopy, Bronchoscopy and Vocal cord disorder) surgical patients	MCQ	4		
		Perform advanced airway management for pediatric and adult ENT surgeries(awake intubation, retrograde intubation, needle Cricothyrotomy)	MCQ + OSCE	3		
		Describe basic consideration for day case anesthesia service	MCQ	3		
	Provide Postoperative care for ENT surgical patients	Manage post-operative complication for ENT, ophthalmic and day care surgical patients (Nausea, vomiting, upper airway obstruction)	MCQ + OSCE	5	16	
		Manage hypothermia and shivering	MCQ	2		
		Observe any bleeding in PACU for ENT surgical patients	MCQ + OSCE	2		
		Apply multimodal analgesia technique	MCQ	4		
		Describe the discharging criteria of day care surgical patients	MCQ	3		
Total				100	100	0

13. Anesthesia for Multiple Trauma & Shocked Patient [Anst5163]

Module Competencies	Task	Learning Outcome (LO)	Method of Assessment	% Emphasis Per LO	% Emphasis Per Task	Total Item No.
PROVIDE COMPRHENSIVE PERIOPERATIVE ANESTHETIC CARE FOR MULTIPLE TRAUMA AND SHOCKED PATIENTS UNDERGOING SURGERY UNDER GENERAL OR REGIONAL ANESTHESIA	Clinically intervene Multiple trauma and shocked patients through application of basic science principles	Describe concepts of trauma care	MCQ	1	19	
		Describe the epidemiology of trauma and burn	MCQ	1		
		Identify and prioritize trauma patients (triage)	MCQ	2		
		Assess multiple trauma patients, EWS, GCS/AVUP (Chest, Abdominal, Pelvic, Head and Spinal Cord and extremity trauma)	MCQ	2		
		Identify and manage life threatening conditions of trauma, shock and burn	MCQ	2		
		Classify and identify the implication of burn based on the degree, size and site of injury.	MCQ	1		
		Identify mechanisms of trauma and shock	MCQ	1		
		Describe types of shock and their management	MCQ	2		
		Identify clinical manifestation of shock	MCQ	1		
		Describe the pathophysiology of burn, shock and trauma	MCQ	2		
		Identify the fluid and anesthetic management of burned patients	MCQ	4		
	Perform Preanesthetic Assessment, Prepare & Optimize Multiple trauma and shocked patients	Perform PRIMARY SURVEY	MCQ + OSCE	3	28	
		Perform SECONDARY SURVEY	MCQ + OSCE	3		
		Perform TERTIARY SURVEY	MCQ + OSCE	3		
		Administer appropriate premedication drugs and antibiotics preoperatively	MCQ	1		
		Perform resuscitation preoperatively	MCQ + OSCE	2		
		Optimize, counsel and assure informed consent of trauma, burn and shocked patients coming for surgery	MCQ + OSCE	1		
		control pain of patients with multiple trauma and burn with appropriate analgesics	MCQ	1		
		Prepare of resuscitation equipment and drugs	MCQ	3		
Stabilize hemodynamic status preoperatively		MCQ	4			
Recognize the anesthetic implications of shock, trauma, and burn		MCQ	2			
Manage preoperative shock based on under line causes	MCQ	3				
Identify preoperative anesthetic concerns of orthopedic surgery	MCQ	2				



Module Competencies	Task	Learning Outcome (LO)	Method of Assessment	% Emphasis Per LO	% Emphasis Per Task	Total Item No.	
	Manage Intraoperative anesthesia for Multiple trauma and shocked patients	Identify the fluid and anesthetic management of burned, shocked and patients	MCQ	3	35		
		Select appropriate anesthetic agents with acceptable scientific justifications for the case	MCQ	2			
		Manage intraoperative shock (administer different fluids and blood products based on the objective assessment of patients' intraoperative status)	MCQ	4			
		Monitor patients by using monitoring device and sense organ	MCQ	5			
		Recognize intraoperative complication early	MCQ	6			
		Stabilize hemodynamic status intraoperatively	MCQ	6			
		Decide when to discharge the patient to PACU/ HDU/ RR or other centers	MCQ + OSCE	2			
		Identify the information to be discussed with PACU/ RR nurse about the patients' intraoperative condition	MCQ + OSCE	4			
		Manage patients coming for orthopedic surgery	MCQ	3			
	Provide Postoperative care for Multiple trauma and shocked patients	Apply post-operative PACU monitors for trauma patients after surgery	MCQ	2	18		
		Assess and manage pain, PONV, the need for oxygen therapy and other postoperative complications of trauma and shocked patients admitted to PACU after surgery	MCQ	5			
		Keep appropriate recording of patients' physiologic variables in PACU	MCQ	2			
		Decide when to discharge patients from PACU based on discharge criteria (Aldretes score, POST ANESTHESIA DISCHARGE score, WHITE ETAL)	MCQ	2			
		Order and Administer appropriate postoperative analgesia, antiemetics and other drugs as needed for postoperative trauma, shocked and burn patients	MCQ	3			
		Appraise the importance of interdisciplinary communication for better outcome of patients with any trauma	MCQ	2			
		Manage patients with risk of venous thrombo-embolic complication	MCQ	2			
	Total				100	100	0

14. Anesthesia and Co-Existing Disease [Anst5164]

Module Competencies	Tasks	Learning Outcomes (LOs)	Method of Assessment	% Emphasis Per LO	% Emphasis Per Task	Total Item No.
PROVIDE COMPREHENSIVE PERIOPERATIVE ANESTHETIC CARE FOR SURGICAL PATIENTS WITH CO-EXISTING DISORDERS UNDERGOING SURGERY UNDER GENERAL OR REGIONAL ANESTHESIA	Clinically intervene surgical patients with co-existing disorders through application of basic science principles	Define Endocrine Diseases (DM. Thyroid, adrenal gland tumor, pituitary gland), including hypertension	MCQ	1	20	
		Describe Anatomy, Physiology Endocrine Gland	MCQ	1		
		Explain Pathophysiology of Endocrine Diseases ((DM. Thyroid, adrenal gland tumor, pituitary gland)	MCQ	2		
		Interpret lab investigations of a patient with Endocrine Diseases ((DM. Thyroid, adrenal gland tumor, pituitary gland)	MCQ	2		
		Explain Pathophysiology, Clinical Presentation of neuromuscular Diseases	MCQ	2		
		Explain pathophysiology of patients with malaria	MCQ	1		
		Define Obstructive and Restrictive Pulmonary Disease	MCQ	2		
		Recognize Clinical Presentation of Obstructive and Restrictive Pulmonary Disease	MCQ	2		
		Interpret Lab & other Investigations for Patient with Obstructive and/or Restrictive Pulmonary Disease	MCQ	2		
		Identify Risk Factors for Malignant Hyperthermia	MCQ	1		
		Explain clinical presentation of neuromuscular disorders (GBS, MHT, MDS, MG)	MCQ	1		
		Describe the clinical features of patients with HIV	MCQ	1		
		Explain the pathophysiology of Parkinson's disease	MCQ	1		
	Explain pathophysiology of neuromuscular disorders (GBS, MHT, MDS, MG)	MCQ	1			
	Perform Preanesthetic Assessment, Prepare & Optimize surgical patients with co-existing disorders	Discuss anesthetic Implications of Endocrine Diseases ((DM. Thyroid, adrenal gland tumor, pituitary gland)	MCQ + OSCE	5	25	
		Evaluate A Patient with Endocrine Diseases ((DM. Thyroid, adrenal gland tumor, pituitary gland)	MCQ	3		
		Describe preoperative evaluate patients with malaria comorbidity.	MCQ	1		
		Explain the preoperative preparation of patients with malignancies.	MCQ	1		
		Perform Pre-Op Optimization for Patient with Endocrine Diseases ((DM. Thyroid, adrenal gland tumor, pituitary gland)	MCQ	3		
		Explain Anesthetic Implications of patients with neuromuscular Disease	MCQ	2		
Discuss Pre-Op Optimization for Patient with neuromuscular Disease		MCQ	2			



Module Competencies	Tasks	Learning Outcomes (LOs)	Method of Assessment	% Emphasis Per LO	% Emphasis Per Task	Total Item No.
		Explain Pre-Op Optimization of a patient with Obstructive and/or Restrictive Pulmonary Disease including pulmonary tuberculosis	MCQ	3		
		explain preoperative assessment for patients with neuromuscular disorders (GBS, MHT, MDS, MG)	MCQ	2		
		Perform preoperative assessment for HIV patient showing the necessary care.	OSCE	1		
		Perform preoperative assessment for patients with Parkinson's disease	MCQ	2		
	Manage Intraoperative anesthesia for surgical patients with co-existing disorders	Identify intraoperative management strategies for malignancy related surgeries	MCQ	4	35	
		Analyze safe intraoperative anesthetic consideration for a patient with Endocrine Diseases ((DM. Thyroid, adrenal gland tumor, pituitary gland)	MCQ	5		
		Identify intraoperative complication in a Patient with Endocrine Diseases ((DM. Thyroid, adrenal gland tumor, pituitary gland)	MCQ	4		
		Evaluate Monitoring in a Patient with Endocrine Diseases ((DM. Thyroid, adrenal gland tumor, pituitary gland)	MCQ	2		
		Analyze safe intraoperative anesthetic consideration for A Patient with Neuromuscular Disease	MCQ	2		
		Analyze safe intraoperative anesthetic consideration for A Patient Obstructive and/ or Restrictive Pulmonary Disease	MCQ	5		
		Identify and manage intraoperative complication in a Patient with Obstructive and/or Restrictive Pulmonary Disease	MCQ	4		
		Describe the intraoperative management of patients with malaria	OSCE	2		
		Prevent intraoperative hypothermia	MCQ	2		
		Evaluate Monitoring in a Patient with Obstructive and/or Restrictive Pulmonary Disease	MCQ	1		
		Analyze safe intraoperative anesthetic consideration for patients with neuromuscular disorders (GBS, MHT, MDS, MG)	MCQ	2		
		Describe intraoperative anesthetic management for Parkinson's disease	MCQ	1		
		Evaluate the intraoperative management for HIV patients	MCQ	1		
		Provide Postoperative care for Multiple	Develop safe and effective postoperative complications management plan in a Patient with Endocrine Diseases (DM. Thyroid, ...)	MCQ		4
	Evaluate Post-Op Monitoring in a Patient with Endocrine Diseases (DM. Thyroid, ...)		MCQ	2		

Module Competencies	Tasks	Learning Outcomes (LOs)	Method of Assessment	% Emphasis Per LO	% Emphasis Per Task	Total Item No.
	trauma and shocked patients	Manage postoperative Pain	MCQ	4	20	
		Explain post-operative management for patients with malignancy	MCQ	1		
		Identify and manage Post-Op complication in a Patient with Obstructive and/or Restrictive Pulmonary Disease including pulmonary tuberculosis	MCQ	4		
		Describe post-operative management for patients with neuromuscular disorder (GBS, MHT, MDS, MG)	MCQ	4		
		Identify and manage the postoperative complications related to HIV patients	MCQ	1		
	Total				100	100

15. Anesthesia for Thoracic Surgery Surgeries [Anst5165]

Module Competencies	Tasks	Learning Outcomes (LOs)	Method of Assessment	% Emphasis Per LO	% Emphasis Per Task	Total Item No.
PROVIDE COMPREHENSIVE PERIOPERATIVE ANESTHETIC CARE FOR THORACIC SURGICAL PATIENTS UNDERGOING SURGERY UNDER GENERAL OR REGIONAL ANESTHESIA	Clinically intervene Thoracic surgical patients through application of basic science principles	Describe cardio-thoracic anatomy	MCQ	3	21	
		Describe cardio-thoracic physiology	MCQ	4		
		Explain respiratory pharmacology	MCQ	3		
		Discuss common respiratory diseases	MCQ	3		
		Explain classification of congenital heart disease	MCQ	1		
		Explain common cardiac diseases (CHF, IHD, MI...)	MCQ	3		
		Discuss fetal circulation and different types of congenital heart diseases	MCQ	2		
		Explain pathophysiology of shunts in congenital heart failure	MCQ	3		
	Perform Preanesthetic Assessment, Prepare & Optimize Thoracic surgical patients	Assess and optimize the thoracic surgical patient	MCQ + OSCE	10	30	
		Assess patient with lung cancer	MCQ	2		
		Discuss preoperative evaluation for congenital heart disease	MCQ	3		
		Discuss preoperative evaluation of common cardiac diseases (CHF, IHD, MI...)	MCQ	5		
		Assess and optimize the cardiac patient who comes for non-cardiac surgery	MCQ	5		
		Describe preoperative evaluation & preparation for valvular heart disease	MCQ	5		
	Manage Intraoperative anesthesia for Thoracic surgical patients	Explain and manage one lung ventilation	MCQ + OSCE	7	38	
		Describe intraoperative monitoring for thoracic surgical patient	MCQ	3		
		Discuss the challenges of pediatric thoracic anesthesia	MCQ	3		
		Manage thoracic surgical emergencies	MCQ + OSCE	5		
		Manage emergency surgeries complicated by cardiac comorbidity	MCQ	2		
		Explain anesthetic management of patients valvular heart disease	MCQ	4		
		Explain anesthetic management for patients congenital heart disease	MCQ	4		
Manage cardiac surgical patient for non-cardiac surgery		MCQ	4			
Explain anesthetic management for cardiac trauma patient		MCQ	3			

	Manage anesthesia for pericardial surgery	MCQ	3	
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Module Competencies	Tasks	Learning Outcomes (LOs)	Method of Assessment	% Emphasis Per LO	% Emphasis Per Task	Total Item No.
	Provide Postoperative care for Thoracic surgical patients	Explain the general post-operative care of thoracic surgical procedures	MCQ + OSCE	4	11	
		Describe management of post-operative respiratory problems	MCQ + OSCE	3		
		Explain pain management after cardiac-thoracic surgery	MCQ + OSCE	4		
	Total				100	100

16. ICU and Pain Management [Anst5172]

Module Competencies	Task	Learning Outcomes (LOs)	Method of Assessment	% Emphasis Per LO	% Emphasis Per Task	Total Item No.
PROVIDE COMPREHENSIVE EMERGENCY AND CRITICAL CARE ENCOMPASSED UNDER THE SCOPE OF ANESTHESIA PROFESSIONAL	Provide general supportive care for critically ill patients	Apply principles of FAST-HUG (Feeding, Analgesia, Sedation, Thromboprophylaxis, Position (Head up), Ulcer prophylaxis and Glucose monitoring) in critically ill patients	MCQ + OSCE	8	8	
	Manage pain effectively	Assess severity of pain using different modalities	MCQ	3	14	
		Identify physiologic adverse effects of pain	MCQ	2		
		Compare different types of pain according to their characteristics	MCQ	2		
		Describe anatomy of pain pathway	MCQ	4		
		Manage intraoperative and postoperative pain effectively	MCQ	3		
	Monitor critically ill patients in ICU	Apply different non-invasive monitors and interpret invasive monitoring data for critically ill patient	MCQ	4	19	
		Assess of metabolic and renal function including acid - base physiology, serum, urine and electrolytes	MCQ	4		
		Undergo comprehensive neurologic examination	MCQ	3		
		Interpret results of investigation modalities	MCQ	2		
		Undergo bedside cardiovascular and respiratory monitoring	MCQ	4		
	Provide Respiratory system critical care	Identify patients with respiratory failure that requires mechanical ventilation	OSCE	4	19	
		Apply invasive and non-invasive modes to support ventilation	MCQ + OSCE	4		
		Justify different ventilator setting for different patients with comorbidities	MCQ + OSCE	3		
		Support patients with respiratory failure with artificial ventilation	MCQ + OSCE	4		
		Evaluate patients for ventilator associated complications	MCQ	4		
	Provide Circulatory system critical care	Recognize critical ill patients	MCQ + OSCE	3	24	
		Assess and Manage patients with ABCDE approach	MCQ + OSCE	3		
		Apply advanced airway management modalities during life threatening airway obstructions	MCQ + OSCE	2		
		Identify and treat peri-arrest arrhythmias	MCQ	3		
Apply synchronized chest compression and ventilation for patients with cardiac arrest		MCQ + OSCE	3			



Module Competencies	Task	Learning Outcomes (LOs)	Method of Assessment	% Emphasis Per LO	% Emphasis Per Task	Total Item No.
		Identify patients with shockable and non-shockable cardiac arrest rhythms	MCQ + OSCE	3		
		Deliver shock for patients with shockable cardiac arrest rhythm	MCQ + OSCE	2		
		Treat reversible causes of cardiac arrest	MCQ	3		
		Identify major post resuscitation concerns	MCQ	2		
	Manage common medical emergencies in ICU	Manage patients with status asthmatics	MCQ	3	18	
		Treat patients with Status epileptics	MCQ	3		
		Manage patients with tetanus	MCQ	3		
		Manage patients with anaphylactic shock	MCQ	3		
		Manage patients with hypo/ hyperkalemia	MCQ	3		
		Manage patients with aspiration pneumonitis	MCQ	3		
	Total				100	100

17. Anesthesia for Neurosurgery, Psychiatric & Geriatrics Patient [Anst5174]

Module Competencies	Tasks	Learning Outcomes (LOs)	Method of Assessment	% Emphasis Per LO	% Emphasis Per Task	Total Item No.	
PROVIDE COMPREHENSIVE PERIOPERATIVE ANESTHETIC CARE FOR NEUROSURGICAL, PSYCHIATRIC AND GERIATRIC SURGICAL PATIENTS UNDERGOING SURGERY UNDER GENERAL OR REGIONAL ANESTHESIA	Clinically intervene Psychiatric, Geriatric and Neurosurgical patients through application of basic science principles	Describe anatomy of brain	MCQ	2	15		
		Discuss physiology of brain	MCQ	3			
		Describe pathophysiology of ICP	MCQ	4			
		Describe anatomic and physiologic changes related with aging	MCQ	4			
		Discuss special aspects of geriatric pharmacology	MCQ	4			
		Describe common psychiatric problems	MCQ	3			
	Perform Preanesthetic Assessment, Prepare & Optimize Psychiatric, Geriatric and Neurosurgical patients	Assess patients undergoing Elective craniotomy and neurosurgical emergencies Optimize unstable patients planned to undergo craniotomy and neurosurgical emergencies Assess patients undergoing spinal ` surgeries Optimize patients undergoing spinal ` surgeries Assess patients coming for surgery with psychiatric diseases Optimize patients coming for surgery with psychiatric diseases Assess geriatric patients coming for surgery Identify drug interaction b/n anti-psychotic drugs and anesthetics Optimize geriatric patients coming for surgery	Assess patients undergoing Elective craniotomy and neurosurgical emergencies	PCE + CBD	3	25	
			Optimize unstable patients planned to undergo craniotomy and neurosurgical emergencies	PCE + CBD	3		
			Assess patients undergoing spinal ` surgeries	PCE + CBD	3		
			Optimize patients undergoing spinal ` surgeries	PCE + CBD	3		
			Assess patients coming for surgery with psychiatric diseases	PCE + CBD	2		
			Optimize patients coming for surgery with psychiatric diseases	MCQ	3		
			Assess geriatric patients coming for surgery	PCE + CBD	2		
			Identify drug interaction b/n anti-psychotic drugs and anesthetics	MCQ + ESSAY	3		
			Optimize geriatric patients coming for surgery	PCE + CBD	3		
	Manage Intraoperative anesthesia for Psychiatric, Geriatric and Neurosurgical patients	Manage patients with an increase in ICP Discuss anesthetic considerations during craniotomy and neurosurgical emergencies Discuss anesthetic considerations of patients undergoing spinal surgeries Explain special challenges of anesthetic management for geriatrics Discuss anesthetic considerations of patients with psychiatric disease undergoing surgery	Manage patients with an increase in ICP	PCE,CBD,DOP	5	30	
			Discuss anesthetic considerations during craniotomy and neurosurgical emergencies	MCQ,PCE,CBD	10		
			Discuss anesthetic considerations of patients undergoing spinal surgeries	MCQ,PCE,CBD	5		
			Explain special challenges of anesthetic management for geriatrics	MCQ,PCE,CBD	5		
			Discuss anesthetic considerations of patients with psychiatric disease undergoing surgery	CBD,PCE,MCQ	5		
Provide post-operative Anesthetic care for craniotomy and neurosurgical			PCE + CBD	8			

	Postoperative care for Psychiatric,	emergencies				
		Identify patients who need post-operative ventilator support	MCQ,PCE,CBD	8	25	

Module Competencies	Tasks	Learning Outcomes (LOs)	Method of Assessment	% Emphasis Per LO	% Emphasis Per Task	Total Item No.
	Geriatric and Neurosurgical patients	Identify common postoperative complications of geriatrics patient	MCQ + CBD	3		
		Provide post -operative Anesthetic care for geriatric surgical patients	PCE + CBD	4		
		Provide postoperative Anesthetic care for psychiatric patients	PCE + CBD	2		
	Total					100

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