



SunRise University

Approved by Govt. of Rajasthan vide Sunrise University Act, 2011
Recognized by UGC Act, 1956 u/s 2 (f)

Certificate in Operation Theatre Technician course

SunRise University

SCHEDULE OF EXAMINATION

8

Subject Code	Course	Internal	External	Total
COT101	General Anatomy & Physiology Pathology, Pharmacology	40	60	100
COT102	Surgical Anatomy	40	60	100
COT103	Relevant surgical & medical conditions	40	60	100
COT104	Basic biomedical engineering physics of OT equipments & instrument	40	60	100
COT105	Oral & Practical	60	40	100
TOTAL		220	280	500

PAPER 1st Theory	Topics	Hours.
1.General Anatomy & Physiology (Cytology, Histology, Osteology and only basics of all organ systems of body).	12. Endocrine system: Hormones secreted by Pituitary, Thyroid, Parathyroid, Pancreas, Adrenal cortex, Adrenal medulla, Gonads & functions of different hormones. (Details of structure of these glands not required).	20 Hrs
	13. Gross structure of brain & spinal cord. Functions of different parts of brain & spinal cord.(Details not required.)	30 Hrs
	14. Blood: Composition & Functions. Details about Plasma, RBCs, WBCs, Platelets, Clotting system.	30 Hrs
	15. Gross structure & functions of sensory Organs - Eye, Ear, Nose, Tongue.(Details not required).	20 Hrs
	16. Basic gross structure of heart, vessels opening into heart & Leaving the heart. Arterial & Venous tree of body.	20 Hrs
	17. Lymphatic system: Structure & Functions.	10 Hrs
	18. Inumune system: Components & various mechanisms of defense.	20 Hrs

PAPER 1st Theory	Topics	Hours.
2.Only basics of relevant Pathology, Pharmacology (including anaesthetic agents) & Microbiology.	1. Basic steps of Acute & chronic inflammation and Healing of wound.	05 Hrs
	2. Basics of Necrosis & apoptosis.	02 Hrs
	3. Basics of Shock.	02 Hrs
	4. Basics of Disorders of blood coagulation system.	08 Hrs
	5. Basics of Disorders of Immune system of body.	05 Hrs
	6. Modes of disease transmission & prevention of infection.	05 Hrs
	7. Sterilization & methods of sterilization used in hospitals.	10 Hrs
	8. Basic idea about types of Bacteria, Virus, Fungi.	20 Hrs
	9. Routes of drug administration.	02 Hrs
	10. Adverse effects & side effects of drugs.	02 Hrs
	11. Basic idea of Analgesics : Opioid & NSAIDs.	02 Hrs
	12. Basic idea of Drugs use in Cough & expectoration.	01 Hrs
	13. Basic idea of Drugs used in B. asthma & COPD.	02 Hrs
	14. Basic idea of Drugs used in GIT.	03 Hrs
	15. Basic idea of Anti Microbials.	20 Hrs
	16. Basic idea of Anti H-1 Histaminics & Corticosteroids.	01 Hrs
	17. Drugs used in anaemia.	02 Hrs
	18. Anaesthetic agents(LA&GA).	25 Hrs
	19. Muscle relaxants.	05 Hrs

PAPER 2nd Theory	Topics	Hours.
1.Detailed Surgical Anatomy.	1. Detailed Structure of Anterior abdominal wall including clinical anatomy of Hernia.	10 Hrs
	2. Detailed Structure of Posterior abdominal wall.	03 Hrs
	3. Detailed Structure of thoracic wall.	03 Hrs
	4. Concept of meninges & SCALP.	03 Hrs
	5. Surface anatomy & Important bony land marks.	13 Hrs
	6. Concept of Mediastinum.	03 Hrs.
	7. Skin as sensory organ.	03 Hrs
	8. Applied Ocular anatomy.	02 Hrs
	9. Location of major muscles of body.	10 Hrs

PAPER 2nd Theory	Topics	Hours.
2.Basics of OT techniques, CSSD techniques and Anaesthesia techniques.	1. Hand wash & surgical scrubbing.	03Hrs.
	2. Pre-operative preparation of patient including surgery site.	07 Hrs
	3. Post operative care including dressing.	05 Hrs
	4. Basic idea of various methods of sterilization & basic functioning of CSSD.	15 Hrs
	5. Various positions used in different surgeries.	15 Hrs
	6. Types of anaesthesia, Boyle's machine & anaesthesia work station.	10 Hrs
	7. Gases used in anaesthesia.	08 Hrs
	8. Triage of patients.	02 Hrs
	9. Diagram & details of hand instruments used in common surgeries.	40 Hrs
	10. Pre anaesthetic check up	03 Hrs
	11. Infection control in OT	05 Hrs
	12. Basic idea of different IV fluids	05 Hrs
	13. Needles , sutures and knots.	15 Hrs
	14. Cautery.	05 Hrs

PAPER 2nd Theory	Topics	Hours.
3.Hand hygiene & prevention of cross infection.	1. Hand hygiene & method of Hand washing.	15 Hrs
	2. Prevention of cross infection.	15 Hrs

PAPER 2nd Theory	Topics	Hours.
4.Basic life support (BLS) & Cardio-pulmonary resuscitation (CPR).	1. Code blue.	05 Hrs
	2. Details of basic life support (BLS) & Cardio-pulmonary resuscitation (CPR).	35 Hrs

Practical	Topics
	1. Hand wash & scrubbing.
	2. Basics of various methods of sterilization.
	3. Care & identification of all equipments, instruments & hand instruments related to OT.
	4. Pre-operative care & preparation.
	5. Post-operative care of patient.
	6. BLS.
	7. Using medical gases.
	8. Working as second assistant.
	9. Details about sutures, needles, knots.
	10. IV fluids use.
	11. Recording vitals.
	12. IV, IM injection, Urinary catheterization.
13. Glove, Gown, Personal protection equipments.	

PAPER 1st	Topics	Hours.
------------------	--------	--------

Theory		
1.Only relevant surgical & medical conditions (relevant to OT technician).	1. History taking. General examination of the patient. Filling Case-sheet. Common clinical words.	15 Hrs
	2. Hypertension:- Def, Causes, Pathology, Clinical features, Investigation & Management.	05 Hrs
	3. Hypotension :- Def, Causes, Pathology, Clinical features, Investigation & Management.	02 Hrs
	4. Diabetes mellitus :- Def, Causes, Pathology, Clinical features, Investigation & Management.	10 Hrs
	5. <u>Diseases of blood</u> :- Anaemia, Basics of coagulation Bleeding disorders & Haemophilia.	20 Hrs
	6. <u>Respiratory Tract</u> :- Pneumonia, Tuberculosis, B. asthma, COPD, Bronchiectasis, Collapse of lung, Pneumonitis, Pleural effusion, Pneumothorax, Empyema thoracis, Cancer lung.	30 Hrs
	7. <u>Diseases of GIT & Liver & GB</u> :-Reflux Oesophagitis, Peptic ulcers, Gastritis, Intestinal Obstruction, Hepatitis, Cirrhosis of liver, Cholecystitis, appendicitis, Hernia, Piles, Fissure, Fistula, Pancreatitis, Pancreatic Cancer.	60 Hrs
	8. <u>Diseases of Nervous system</u> :- Stroke, Meningo-encephalitis, Glasgow coma scale, Epilepsy, Head Injury.	30 Hrs
	9. <u>Diseases of Urinary tract</u> :- Urolithiasis, Benign prostatic hyperplasia, Hydrocoele, Cancer prostate, urethral stricture, Hypo & epi-spadias.	40 Hrs
	10. <u>Endocrine system</u> :- Diabetes mellitus, hypo & Hyper thyroidism.	10 Hrs
	11. <u>Miscellaneous</u> :- Hypo & Hyper Natraemia, Hypo & Hyper Kalaemia, Hypo & Hyper Calcaemia.	10 Hrs
	12. <u>Infections diseases</u> :- TB, Typhoid, Malaria, Dengue fever, Leprosy, AIDS, Amoebiasis.	30 Hrs

PAPER 1st Theory	Topics	Hours.
1.Only relevant surgical & medical conditions (relevant to OT technician).	13. Head injury & Intracranial bleed.	20 Hrs
	14. D's of G& O: Caesarian section, fibroid uterus, Cancer uterus, prolapse uterus, PID.	20 Hrs
	15. Basics about fracture & management.	50 Hrs
	16. PIVD,Potts spine.	10 Hrs
	17. Oral cavity tumors.	10 Hrs
	18. Eye d's : Cataract, Glaucoma.	10 Hrs
	19. ENT:. CSOM, ASOM, Laryngeal tumor, Nasal poyp, DNS.	20 Hrs
	20. Paediatric surgery:- Diaphragmatic Hernia, Meningo-Myelocoele & Spina bifida, Cystic hygroma, Basic of Congenital Heart d's, Hirschsprung d's, Ano-rectal maformation.	40 Hrs

PAPER 1st	Topics	Hours.
------------------	---------------	---------------

Theory		
2.Nursing Procedures like vital recording, IM/IV/SC injection, Oxygen therapy, Nebulization, IV infusion	1. Temperature monitoring & Fever.	02 Hrs
	2. Pulse monitoring.	01 Hr
	3. BP monitoring.	01 Hr
	4. Respiration monitoring.	01 Hr
	5. Types of Injection routes.	01 Hr
	6. IM Injection.	01 Hr
	7. IV Injection.	01Hr
	8. SC Injection.	01 Hr
	9. Oxygen Therapy.	03 Hrs
	10. Nebulization	01 Hr
	11. IV Infusion (Also with infusion pump).	01 Hr
	12. Care of Unconscious patient.	02 Hrs
	13. Urinary Catheterization.	03 Hrs

PAPER 2nd Theory	Topics	Hours.
-------------------------	---------------	---------------

1.Details of common surgeries & applied OT techniques.	1. Various Incisions and Suturings.	10 Hrs
	2. Use of Cautery machine.	05 Hrs
	3. Incision & drainage.	05 Hrs
	4. Mastectomy & MRM.	05 Hrs
	5. Open reduction & internal fixation.	15 Hrs
	6. Laboratory.	10 Hrs
	7. Craniotomy.	05 Hrs
	8. EDH, SDH & Intra parenchymal bleed drainage.	05 Hrs
	9. Cholecystectomy : Open & Laparoscopic.	10 Hrs
	10. Appendidectomy: Open & Laparoscopic.	10 Hrs
	11. Hernioplasty & Herniotomy.	10 Hrs
	12. Haemorroidectomy : Conventional & stapler.	10 Hrs
	13. Lower segment caesarian section.	10 Hrs
	14. Hysterectomy : Abdominal, Vaginal & laparoscopic.	10 Hrs
	15. Surgery for fistula in ano.	05 Hrs
	16. Surgery for Rectal prolapse.	05 Hrs
	17. Surgery for Intestinal perforation.	10 Hrs
	18. Surgery for Gastric perforation.	05 Hrs
	19. ureteroscopic removal of urinary stone.	05 Hrs
	20. TURP.	05 Hrs
	21. Surgery for Cataract.	05 Hrs

PAPER 2nd Theory	Topics	Hours.
-------------------------	---------------	---------------

1.Details of common surgeries &	22. Surgery for Glaucoma.	05 Hrs
	23. Surgery for DNS.	05 Hrs

SunRise University

applied OT techniques.		
	24. Thyroid surgery.	05 Hrs
	25. Thoracotomy.	10 Hrs

PAPER 2nd Theory	Topics	Hours.
2.Basics of CSSD & sterilization practices, biomedical waste management.	1. Various methods of Sterilization.	20 Hrs
	2. Aseptic practices.	20 Hrs
	3. Basics of Biomedical waste management.	20 Hrs

PAPER 2nd Theory	Topics	Hours.
3.Basic biomedical engineering physics of OT equipments & instrument.	1. Boyle's apparatus.	05 Hrs
	2. Anaesthesia work station.	20 Hrs
	3. Cautery machine.	10 Hrs
	4. Surgical endoscopes & Laparoscopes.	15 Hrs
	5. Monitors	05 Hrs
	6. C- Arm.	05 Hrs

	Topics
Practical	1. Hand on training as first assistant in common surgeries as listed in paper second.
	2. Hand on training of maintaining Asepsis in OT.
	3. Hand on training of biomedical waste management.
	4. Hand on training on taking various consents & keeping records.

SunRise University