

**MAHARASHTRA STATE BOARD OF VOCATIONAL EDUCATION EXAMINATION, MUMBAI**

1	Name of Course	C.C. In I.C.U. Technician (W.E.F. 2015-16)																		
2	Course Code	201103																		
3	Max.No.of Students Per Batch	25 Students																		
4	Duration	6 Month																		
5	Type	Part Time																		
6	No.Of Days / Week	6 Days																		
7	No.Of Hours /Days	4 Hrs																		
8	Space Required	1) Class Room = 200 Sq feet 2) <u>Practical Lab = 200 Sq feet</u> <u>Total - 400 Sq.feet</u> 3) Organization should have MOU with 25 Bedded (having 05 Bedded I.C.U.) functioning hospital 4) Distance between Hospital and Institute Should not be more than 10 Km.																		
9	Minimum Entry Qualification	S.S.C. Pass																		
10	Objective Of Course	1) Development of good practical skills to handle critical patient assisting in ICU procedure effectively. 2) Maintenance of ICU equipments and assisting for all types of procedures in the ICU.																		
11	Employment Opportunity	• To work as an Assistant in emergency medical services in Hospitals & Nursing homes.																		
12	Teacher's Qualification	1) B.Sc. Nursing OR full trained B.P.N.A. having at least two year experience in ICU 2) Medical graduate with PGDMS																		
13	Training System	<table><tr><th colspan="4">Training System Per Week</th></tr><tr><td>Theory</td><td>Practical</td><td colspan="2">Total</td></tr><tr><td>6 Hours</td><td>18 Hours</td><td colspan="2">24 Hours</td></tr></table>							Training System Per Week				Theory	Practical	Total		6 Hours	18 Hours	24 Hours	
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6 Hours	18 Hours	24 Hours																		
14	Exam. System	Sr. No	Paper Code	Name of Subject	TH/PR	Hours	Max. Marks	Min. Marks												
		1	20110311	PRINCIPLES, PREPARATION & MANAGEMENT OF ICU	TH-1	3 hrs	100	35												
		2	20110312	ICU PROCEDURES & NURSING CARE	TH-2	3 hrs	100	35												
		3	20110321	ICU PROCEDURE	PR-1	3 hrs	100	50												
		4	20110322	GENERAL CARE OF PATIENTS	PR-2	3 hrs	100	50												
				TOTAL			400	170												

## I.C.U. TECHNICIAN

<b>Sr. No.</b>	<b>THEORY - 1 PRINCIPLES, PREPARATION &amp; MANAGEMENT OF ICU</b>
1	Historical aspect of nursing care.
2	ICU assistant as an art, science and vocation.
3	Functions of hospitals, types of hospitals.,
4	Organization of hospital and knowledge about other departments.
5	Various terminologies' used during medical and surgical ward care.
6	Physical set-up of ICU & ICCU.
7	Team of ICU and ICCU.
8	Principles applied to ICU assistant procedures
9	Qualities of ICU assistant.
10	Role of ICU assistant as a member of ward team.
11	Interpersonal relationship during ward assistant's duty.
12	How to develop communication skill ?
13	Role of ICU assistant in protecting patient's rights.
14	Anatomy of cardio-vascular system.
15	Physiology of cardio-vascular systems.
16	Common parameters of body, vital signs.
17	Anatomy of respiratory system.
18	Physiology of respiratory system.
19	Risk factors in coronary heart diseases.
20	Risk factor of critically ill patients
21	Physical assessment and knowledge of vital signs in ICU and ICCU patient
22	Importance of cardio-vascular history and symptoms
23	Knowledge about asepsis and cross infection
24	Principles of surgical asepsis and aseptic practices
25	Importance of good housekeeping, cleaning and care of rubber goods.
26	Procedure for indoor admission
27	ICU record and report keeping
28	Terminology's used in diet and nutrition of patient
29	Difference types of ICU / ward therapies and exercises
30	Different abbreviation and symbols used.

<b>Sr. No.</b>	<b>THEORY - 2 ICU PROCEDURES &amp; NURSING CARE</b>
1	Different methods of monitoring vital signs and its importance
2	Breathing problems of ICU patient
3	Various laboratory tests done for investigators.
4	Collection of lab samples and labeling
5	Assisting for X-rays chest
6	Ambulatory ECG monitoring
7	Monitoring of hemodynamic parameters
8	Cardiac disorders and its complications
9	Assisting in Management of Angina pectoris
10	Assisting in Management of pulmonary edema
11	Assisting in Management of cardiogenic shock
12	Assisting for Management of cardiac arrest
13	Assisting for hem and peritoneal dialysis.
14	Assisting for biopsy
15	Assisting for special procedures such as airway, intubation, tracheostomy
16	Ventilator support required for ICU patients.
17	Feeding of critically ill patients
18	Assisting for application of ventilator, pulse oximeter
19	Assisting nurse in management of isolation ward
20	Prevention of pressure sores and bed sores
21	Importance of hot and cold applications in the ward.
22	Precautions to be taken while giving tablets and syrups under the guidance of nurse to the patients.
23	Principles of wound care
24	Use of equipment such as BP, stethoscope, flashlight etc.
25	Various drugs used for ICU patients, how to stock and table
26	Stress test of patient
27	Nursing care of critically ill patient.
28	Dressing procedures, asepsis
29	Immobilization and ambulation of patient
30	Pre and Post operative ward care
31	Knowledge about infusions and transfusions given in the ward
32	Administrative help to ward sisters for record keeping
33	Management of unconscious patient

34	Nursing care of held injury patient
35	Management of tetanus
36	Management of food poisoning
37	Management of orthopedic patient transporting
38	Management of snake bite
39	Handling & evacuation of accident patient of the spot
40	How to observe vital sign
41	Shifting of patient on the stretcher
42	Assisting resuscitation on the spot
43	Care during transportation
44	Communication with hospital
45	Use of computer, entry, retrieval etc.

<b>Sr. No.</b>	<b>PRACTICAL – 1 ICU PROCEDURE</b>
1	How to evaluate orientation, skin color / temp. peripheral pulse
2	Preparation for temporary pacing.
3	Demonstration Monitoring hemodynamic parameter
4	Preparation of lumbar puncture
5	Preparation of thoraco-centesis (Pleural fluid aspiration)
6	Preparation of peritoneal lavage and dialysis
7	Preparation of abdominal paracentesis and surrapubic puncture
8	Preparation for intravenous infusions
9	Preparation for central venous pressure (CVP)
10	Preparation of permanent pacing
11	Preparation of intravenous fluid administration
12	Preparation for blood transfusion
13	Preparation of bladder catheterization.
14	Blood transfusion – Assisting procedure
15	Oral undo tracheal intubation
16	Nasal undo tracheal intubation
17	Tray preparation for tracheotomy
18	Assisting nasal catheterization
19	Assisting for pulse oximeter application
20	Application of face mask, venturi mask
21	Application of face tent and T Tube
22	Application of ventilator
23	Preparation for puncture and collection of CSF
24	Helping of hemodialysis
25	Sterilization and surgical drapes

26	Antiseptic solutions
27	Suture materials and surgical needles
28	Preoperative and postoperative care
29	Preparation for traction, tourniquets and prosthesis
30	Preparation for oxygen therapy
	<b>PRACTICAL - 2</b>
	<b>GENERAL CARE OF PATIENTS</b>
1	Preparation of biopsy
2	Collection of specimens
3	Care of poly trauma patients
4	Nursing care of tetanus
5	Nursing care of burns
6	Care of food poisoning
7	Nursing care of orthopedic patients
8	Nursing care of snake bite
9	Drains
10	Emergency drugs
11	Preparation for local anesthesia
12	Imaging
13	Catheters
14	Gastric aspiration tubes
15	Enemas and suppositories
16	Dressings
17	General care of the patients
18	Ward instruments
19	Knives / Scalpels
20	Syringes and needles
21	Routes of Injection
22	Preparation for venous access
23	Preparation for vane-puncture
24	How to palpate and assess pulses
25	E.C.G. positioning of electrical nodes and marking E.C.G. strips
26	Preparation for tracheotomy and nasotracheal suction
27	Preparation for ophthalmologic procedures.
28	Preparation of endoscopies
29	Practical in use of computer

### ICU INFRASTRUCTURE AND EQUIPMENTS SHOULD BE AVAILABLE WITH HOSPITAL

- Arterial Line
- Brain Stem Evoked Response Equipment
- Catheter
- Central Venous Pressure (CVP) Line
- Chest Tubes
- Electrocardiogram (ECG/EKG)
- Endotracheal Tube (E.T. Tube)
- Eye Tape
- Foley Catheter
- GI Tube
- Intracranial Pressure (ICP) Monitor
- Intravenous (IV)
- Intravenous (IV) Board
- Jejunostomy Tube (J Tube)
- Leg Bag
- Monitor, Intensive Care
- Nasogastric Tube (NG Tube)
- Respirator/Ventilator
- Posey Vest/Houdini Jacket
- Shunt
- "Space Boots" (Spenco Boots)
- Subarachnoid Screw
- Support Hose/TEDS
- Swan-Ganz Catheter
- Tracheostomy Tube
- Traction
- Transducer

**Administrative Criteria and other infrastructure facility should be available in Institute**

Sr.No.	Name Administrative Criteria and other infrastructure facility	Quantity
1	Administrative office	1
2	classroom with a capacity for 25 students	1
3	Library Facility	1
4	Common room for boys	1
5	Common room for girls	1
6	Bed for Patient	2
7	Clinical activities	1
8	Internet facility	1
9	All Types Of Anatomy & Physiology Charts	As per requirement
10	Course Related Equipment For Daily Practice	As per requirement
11	Furniture	As per requirement

**List of Tools, Equipments and Furniture should be available in Institute**

<b>Sr.No.</b>	<b>Name of Tools and Equipments</b>	<b>Quantity</b>
<b>1</b>	Chair & Desk / Benches	25 Nos.
<b>2</b>	OHP & Slide Projector Or LCD Projector	01
<b>3</b>	Bones Set 1	01
<b>4</b>	BP Apparatus	05
<b>5</b>	E.C.G. Machine	02
<b>6</b>	Stethoscope	25
<b>7</b>	Thermometer	05
<b>8</b>	First Aid Kit	01
<b>9</b>	Saline stand	02
<b>10</b>	Ambu Bag	As per requirement
<b>11</b>	Ryle's Tube	As per requirement
<b>12</b>	Urinary Catheter Kit	As per requirement
<b>13</b>	Intravenous Kit	As per requirement

**Reference books required :-**

<b>Sr. No.</b>	<b>Book Name</b>	<b>Author</b>
1	Ward Procedures	Patel
2	Nursing arts procedures Vol. I and II	Nancy
3	Cardiovascular nursing	Mary L.
4	Ready reference for critical care	Strawn
5	Nurse review – A clinical update system Vol. I	Crabble R.
6	Critical care in the 90s	Inn. Health care Inc.
7	Davis's drug guide for nurses	Eglin J.
8	Principles of clinical electrograph	Goldschlager N.
9	Nursing implications in the use of the various catheter	Greed L.
10	SVO2 continuous monitoring techniques	Hardy S.
11	Critical care nursing – a holistic approach	Huda C.
12	The nurse's drug handbook	Loeb S.
13	Care of the patient with an epidural catheter	Lon sway R.
14	Nursing books	PA Springhouse Corp.
15	Critical care medicine the essential	Marini J.
16	Monitoring fluids and electrolytes precisely - Nursing	Horsham P.A.
17	Nursing photo book – providing respiratory care	Horsham P.M.
18	Nursing photo book – using monitors	Horsham P.M.
19	Parenteral and enteral nutrition for nurses	Moghissi K.

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