



B.Sc. in Anaesthesia and Critical Care Technology (BACT)

IGNOU

**ASSIGNMENTS
2013-14
BACT/AS-1-4
3rd Year**



**Centre for Paramedical Sciences
Indira Gandhi National Open University
Maidan Garhi, New Delhi-110 068**

As explained in the Programme Guide, there are four Tutor Marked Assignments (TMA) and **all these assignments are compulsory**. Please note that you are required to score a minimum of 50% marks in each assignment component. The assignments carry a weightage of 30% marks towards the final evaluation in theory component. **Submission of related assignments is a pre-requisite** for appearing in theory term-end examination for respective papers. All the assignments should be submitted **before 31st March, 2014**.

Please take note of the following points before writing your assignments:

- **Use only foolscap size paper for writing your responses. Only hand written assignments will be accepted. Typed or printed copies of assignments will not be accepted.**
- Tie all the pages after numbering them carefully.
- Write the question number with each answer and marks allotted.
- **All the questions are compulsory.**
- Every assignment will be evaluated out of a full mark of 100. Weightage is indicated against each question.

Suggestions for writing an assignment:

Read the assignments carefully. Scan through the whole material of the course, answers may be linked within the blocks/units. Draw a rough outline of your answer in your own words. Support your answer from your clinical experience. Make a logical order. Then write your answer neatly and submit. Give illustrations and tables wherever necessary. You must keep a Xerox copy of the answer sheets for the future reference. Do not copy from printed course material. Answer each assignment on separate sheet. On the first page of the assignment response sheet, write the course code, course title, assignment code, name of your Programme study centre (PSC) and date of submission. Your roll number, name and full address should be mentioned on the first page. The first page of your response sheet should look like the format given.

Course Code	:	.....	Enrolment No.	.....
Course Title	:	.....	Name	:
Assignment Code	:	.....	Address	:
PSC	:	.....		.....
Date of Submission	:	.....		.....

Please submit the assignments to the Programme In-charge of the Programme Study Centre allotted to you.

BAHI-076
EQUIPMENT CARE AND MAINTENANCE
ASSIGNMENT-1

Programme Code: BACT
Course Code: BAHI-076
Assignment Code- BAHI/AS 1
Maximum Marks: 100
Last date of Submission: 31st March, 2014

Answer all the questions. Each question carries 10 marks.

1. Define sterilization and disinfection? Explain different types of sterilization methods and give a brief note on autoclaving?
2. Write short notes on
 - a) Biological indication and chemical indicator
 - b) Universal precautions at workplace
 - c) Dry heat sterilization
 - d) Gas plasma sterilisation
3. Explain agents used for chemical sterilization and fumigation? Its advantages and disadvantages by comparing formaldehyde gas sterilization and ethylene oxide sterilization?
4. Explain mechanics of normal and mechanical ventilation. Differences between spontaneous and controlled ventilation? What are the indications and complications of mechanical ventilation?
5. Write short notes on :
 - a) Tidal volume
 - b) Inspiratory to expiratory ratio
 - c) FiO₂
 - d) PEEP
6. What are various modes of ventilator? Write briefly about weaning from mechanical ventilation.
7. Draw a normal ECG pattern in cardiac cycle mentioning time interval. Describe the different electrodes used for recording ECG
8. Name the bioelectric signals and electrodes used? Electrode gellies and creams used in clinical practice. Mention the properties of ideal gel?
9. Explain the components of medical instrumentation system with diagrams?
10. General constrains in design of medical instrumentation system.

BAHI-079
EQUIPMENT CARE AND MAINTENANCE
ASSIGNMENT-1

Programme Code: BACT
Course Code: BAHI-079
Assignment Code- BAHI/AS 1
Maximum Marks: 100
Last date of Submission: 31st March, 2014

Answer all the questions. Each question carries 10 marks.

1. A patient with preeclamptic feature at 34 weeks of pregnancy for elective cesarean section. How will you prepare the theatre and assist the anaesthesiologist?
2. Explain the clinical implications of prone position. What are the precautions taken to prevent the complications.
3. Write short notes on:
 - a) Supine hypotension syndrome
 - b) Retrograde intubation
 - c) Deep vein thrombosis and its prophylaxis
 - d) Combitube
4. Explain difficult airway and different ways of approach in a difficult airway scenario with algorithm?
5. Write Short notes on:
 - a) ABG
 - b) Rapid sequence induction
 - c) Day care anaesthesia
 - d) Analgesia in burns patient
6. Describe indications for blood transfusion? Explain TRALI and other side effects of massive blood transfusion?
7. How will you prepare the theatre for strabismus surgery? What is oculo cardiac reflex and measures taken to counteract it?
8. Indications, preparation and difficulties faced in providing anaesthesia facilities outside the operation room.
9. Write Short notes on:
 - a) Monitoring of patient during laproscopic surgery
 - b) Different methods of labour analgesia
10. Describe one lung ventilation in patients undergoing lung resection surgery. Precautions to be taken during one lung ventilation.

BAHI-080
EQUIPMENT CARE AND MAINTENANCE
ASSIGNMENT-1

Programme Code: BACT
Course Code: BAHI-080
Assignment Code- BAHI/AS 1
Maximum Marks: 100
Last date of Submission: 31st March, 2014

Answer all the questions. Each question carries 10 marks.

1. Write short notes on:
 - a) Pre-oxygenation
 - b) Incentive spirometer
 - c) Tracheal suctioning
 - d) Nebulization
2. What are the variable performance and fixed performance equipments in oxygen therapy? Describe.
3. Write short notes on:
 - a) Chest compression
 - b) Mouth to mouth ventilation
 - c) Assessment of endotracheal tube placement
 - d) Intratracheal route of drug administration
4. Write short notes on:
 - a) Defibrillation in cardiac arrest
 - b) Synchronised cardio version
 - c) Relief of choking in pregnant patient
 - d) Role of post mortem cesarean section in resistant cardiac arrest in a pregnant patient
5. What are the rhythms in cardiac arrest which needs defibrillation? Describe the steps of defibrillation in a patient with Ventricular Fibrillation (VF).
6. How do you prepare the theatre for resuscitation of patient in shock due to liver injury?
7. Write briefly about post resuscitation cardiac arrest care
8. Write short notes on:
 - a) Management of unstable bradycardia
 - b) Enumerate the causes of cardiac arrest H's & T's
 - c) Care of a dying patient
 - d) Multi organ dysfunction (MODS)
9. Write short notes on:
 - a) Nosocomial infection in ICU
 - b) Organising home visit for a patient who is critically ill
 - c) WHO analgesic ladder
 - d) Physiotherapy for a patient on ventilator with right basal pneumonia
10. Effective communication in a patient with end stage disease

BAHI-082
EQUIPMENT CARE AND MAINTENANCE
ASSIGNMENT-1

Programme Code: BACT
Course Code: BAHI-082
Assignment Code- BAHI/AS 1
Maximum Marks: 100
Last date of Submission: 31st March, 2014

Answer all the questions. Each question carries 10 marks.

1. Enumerate the effects of electrical current on the human body and mention the precautions to be taken to minimize electrical shock hazards in operation room.
2. What are transducers? Mention its types. Write in detail about pressure transducer.
3. Write short notes on:
 - a) Hypoxia prevention devices in anaesthesia machine.
 - b) Scavenging system
4. Write short notes on:
 - a) Automatic external defibrillator
 - b) Automatic implantable defibrillator
5. Write short notes on:
 - a) Bourdon pressure gauge
 - b) Pin index safety system
6. Describe about cardiac output measurement.
7. Briefly describe the pulmonary function test.
8. Write short notes on:
 - a) Photoelectric method to measure pulsable blood volume changes
 - b) Precaution to be taken to achieve good ECG display when electrocautery is used
 - c) Method by which heart rate is calculated from ECG signal
 - d) Central monitoring
9. Write in detail about pulse oximeter.
10. Required components of an anaesthesia workstation.