



Name : .....

Roll No. : .....

Invigilator's Signature : .....

**CS/B.Tech(BME)/SEM-6/BME-604/2012**

**2012**

**HOSPITAL ENGINEERING AND INFORMATION  
SYSTEM**

Time Allotted : 3 Hours

Full Marks : 70

*The figures in the margin indicate full marks.*

*Candidates are required to give their answers in their own words  
as far as practicable.*

**GROUP – A**

**( Multiple Choice Type Questions )**

1. Choose the correct alternatives for the following :

10 × 1 = 10

- (i) A 'Surge' in electrical power supply causes
- a) Sudden Oscillations
  - b) Sudden increase in voltage
  - c) Sudden increase in current
  - d) Sudden heating.
- (ii) CSSD is included in
- a) Line services
  - b) Supportive services
  - c) Auxiliary Services
  - d) All of these.
- (iii) High temperature dry oxidation process of waste disposal is called
- a) Inertization
  - b) Encapsulation
  - c) Incineration
  - d) Microwave irradiation.



- (iv) Most of the surgical equipments are sterilized using
- a) Dry heat
  - b) Ethylene gas
  - c) Moist heat
  - d) None of this.
- (v) Air condition is not must in
- a) Operating room
  - b) Morgue
  - c) Labor delivery suites
  - d) Autopsy.
- (vi) Patients get acute, multidisciplinary and intensive observation and treatment from
- a) OPD
  - b) ICU
  - c) IPD
  - d) OT .
- (vii) NICU stands for
- a) Neonatal Intensive care Unit
  - b) Neonatal Intensive cardiac Unit
  - c) Neuro Intensive Therapy Unit
  - d) Neuro Intensive Thoracid Unit.
- (viii) Needle, scalpel, infusion sets, blades are
- a) Radiotoxic waste
  - b) Genotoxic waste
  - c) Sharps
  - d) Infectious waste.
- (ix) The medical gas which is used to anaesthetize the patient is called
- a) Oxygen
  - b) Nitrogen
  - c) Nitrous oxide
  - d) Hydrogen.
- (x) Hospital can be classified into Government hospital, Private hospital, Semi government hospital on the basis of
- a) Objective
  - b) Size
  - c) Ownership
  - d) Medicine.



**GROUP – B**

**( Short Answer Type Questions )**

Answer any *three* of the following.  $3 \times 5 = 15$

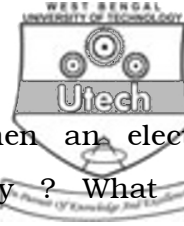
2. What is Commercial MRO ? Mention the different criterion for selection of Commercial MRO by a hospital.  $1 + 4$
3. What are the cryogenic systems ? Why would you require them in hospital ?  $5$
4. What are the utilities of hospital information system (HIS) ?  $5$
5. Briefly explain about the fire-fighting equipment used in hospitals.  $5$
6. Give a brief outline of waste disposal, sterilization of surgical tools.  $5$
7. Mention the effects of EMI on electro medical equipments in a Hospital.  $5$

**GROUP – C**

**( Long Answer Type Questions )**

Answer any *three* of the following.  $3 \times 15 = 45$

8. a) Write the salient features of the patient record management module of HIS.
- b) Write the basic requirements to design the "Intensive Care Unit" (ICU) of a modern hospital.
- c) How staff improvement programme is carried out in Hospital ?  $4 + 7 + 4$



9. What physiological effects take place when an electric current passes through the human body ? What are 'Threshold Perception' and 'Let Go Current' when an electric shock is sustained ? Mention the electrical safety measures that are to be incorporated to prevent electrical shock to patient and damage to equipments in a hospital. 6 + 4 + 5
10. Write major functions of four medical gases. What are the advantages of centralized gas supply station ? Describe the supply source, distribution system and safety precautions of centralized gas supply station. 4 + 2 + 3 + 3 + 3
11. Describe the line services of 200 bed hospital giving emphasis on salient features, work flow and functions of all. 5 + 10
12. Define Hospital. Draw hierarchical chart of a specialty care unit and teaching hospital. Write the responsibility of medical and non-medical staff of a hospital. 2 + 3 + 3 + 7
13. What are the major steps to control fire in a hospital ? What are the basic responsibilities of each employee to eliminate the chance of fire attack ? What are the declarations of Alma-Ata (1978) medical conference ? 5 + 5 + 5
-