

- Q.29 Write differences between SMPS and UPS.
 Q.30 Write applications of Auto transformer.
 Q.31 Write a note on safety aspects of hospital equipment.
 Q.32 Write a note on anesthesia work station maintenance.
 Q.33 Write a note on electrical accidents in healthcare.
 Q.34 Define 3 phase power supply.
 Q.35 Write a note on maintenance of ultrasound machine.

SECTION-D

- Note:** Long answer type questions. Attempt any two questions out of three questions. (2x10=20)
- Q.36 Write a note on DC motor with principle, working construction with suitable diagram.
 Q.37 Write a note on X-Ray machine maintenance, services and five precautions with suitable diagram.
 Q.38 Write differences between macro hazards and micro hazards of medical instruments.

No. of Printed Pages : 4
Roll No.

183254

5th Sem / Branch : Medical Electronics
Sub.: Medical Equipments Maintenance System
(MEMS)

Time : 3Hrs. M.M. : 100

SECTION-A

Note: Multiple choice questions. All questions are compulsory (10x1=10)

- Q.1 Main feature of SMPS
 - a) AF gain b) Power backup
 - c) High efficiency d) GF gain
- Q.2 Switch mode power supply is used for
 - a) Collection
 - b) Load
 - c) To obtain controlled DC supply
 - d) None of these
- Q.3 Working of SMPS is based on
 - a) Chip b) Chopper principle
 - c) Phase control d) None of these
- Q.4 A device convert AC to DC is
 - a) Life b) Load
 - c) Rectifier d) None
- Q.5 Main component of Maintenance are
 - a) Fuse b) Connector
 - c) Both d) None

(100)

(4)

183254

(1)

183254

- Q.6 Which of the following is transistor?
a) MOSFET b) FET
c) BJT d) All of these
- Q.7 Phase converter include
a) Static 3 phase b) Rotary 3 phase
c) Digital 3 phase d) All of these
- Q.8 Which component makes an online UPS different from offline UPS?
a) Static switch b) Moving switch
c) Battery d) None of these
- Q.9 AMC stands for
a) Aim mode code
b) Annual mode code
c) Annual Maintenance contract
d) None of these
- Q.10 AC stands for
a) Alternating current b) Aid code
c) Air conditioner d) Angle code

SECTION-B

Note: Objective type questions. All questions are compulsory. $(10 \times 1 = 10)$

- Q.11 Which color code is used for grounding in wire.
Q.12 Why earthing is done.

- Q.13 DC stands for.
Q.14 CVT stands for.
Q.15 Write symbol for star connection.
Q.16 Write name of any two types of fuses.
Q.17 Write name of two type of shock.
Q.18 Define flow meter.
Q.19 Define ECG machine.
Q.20 Write name of two type of connector.

SECTION-C

- Note:** Short answer type questions. Attempt any twelve questions out of fifteen questions. $(12 \times 5 = 60)$
- Q.21 Write advantages and disadvantages of 3 phase power supply.
Q.22 Define Delta connection with suitable diagram and equation.
Q.23 Explain losses in transformer.
Q.24 Write physiological effects due to power line interference.
Q.25 Define Macro shock hazards of medical instruments.
Q.26 Write a note on space required for handling medical equipments.
Q.27 Write a note on various type of fuses.
Q.28 Write a note on MCCB.