

Q.22 What are the necessary instructions for care and maintenance of lead acid battery?

**SECTION-D**

**Note:** Long answer type questions. Attempt any two questions out of three questions. (2x8=16)

Q.23 Distinguish between primary and secondary cell. In what form is the energy stored in the cell?

Q.24 Explain the difference between a.c. and d.c. Draw their waveform w.r.t. time

Q.25 Write short note on any two of the following.

- a) Norton's Theorem
- b) Maximum Power transfer theorem
- c) Superposition theorem

No. of Printed Pages : 4  
Roll No. ....

221014/212817

**1st Sem / ECE/ Instrumentation & Control Engg./  
Automation & Robotics/ Medical electronics/ ECE  
(For Speech and Hearing Impaired)**

**Subject : Fundamental of Electrical Engineering /  
Fundamentals of Electrical Engg.**

Time : 3 Hrs.

M.M. : 60

**SECTION-A**

**Note:** Multiple choice questions. All questions are compulsory (6x1=6)

Q.1 Ohm's law is applicable to

- a) Semi-conductors
- b) Vacuum tubes
- c) Resistance
- d) Electrolytes

Q.2 Resistivity is measured in

- a)  $\Omega/m$
- b)  $\Omega\cdot m$
- c)  $\Omega^*m$
- d) None of the above

Q.3 The superposition theorem is essentially based on the concept of

- a) Reciprocity
- b) Duality
- c) Linearity
- d) Non-linearity

- Q.4 A tuned circuit uses
- L-C as it's components
  - R-L as it's components
  - R-C as it's components
  - None of the above
- Q.5 The r.m.s. value of sinusoidal a.c. quantity will be
- Same as its average value
  - Less then its average value
  - equal to its effective value
  - less than its effective value
- Q.6 To check the specific gravity of electrolyte, the instrument used is
- Lactometer
  - Voltmeter
  - Barometer
  - Hydrometer

### SECTION-B

**Note:** Objective/ Completion type questions. All questions are compulsory. (6x1=6)

- Q.7 The current which does not change its direction is known as \_\_\_\_\_ current.
- Q.8 Alternating flux is produced by \_\_\_\_\_ supply.

(2) 221014/212817

- Q.9 A source can work as voltage or current source depending upon it's \_\_\_\_\_ resistance.
- Q.10 Unit of inductive reactance  $X_L$  is \_\_\_\_\_
- Q.11 Power factor of a circuit \_\_\_\_\_ be more than unity.
- Q.12 While on discharging, the specific gravity of the electrolyte in secondary cell \_\_\_\_\_

### SECTION-C

**Note:** Short answer type questions. Attempt any eight questions out of ten questions. (8x4=32)

- Q.13 Define free electron. Does it contribute to flow of current?
- Q.14 What is an inductor? Define Q-factor of a coil.
- Q.15 The resistivity of different materials is different. Why?
- Q.16 Why r.m.s. value is called effective value?
- Q.17 Define resonance. What is condition for a resonance to occur in a series circuit?
- Q.18 Define inductive reactance and capacitive reactance.
- Q.19 Define self inductance of a coil.
- Q.20 On what factors e.m.f. of a conductor depend?
- Q.21 Terminal voltage of cell is less than the e.m.f. why?

(3) 221014/212817