

**Trade : Electrical, Computer, Eltx.**

**Subject : FEEE/Fundamentals of Electrical & Electronics Engg.**

**Time : 3 Hrs.**

**M.M. 60**

### SECTION-A

**Note:** Objective type questions. All questions are compulsory (10x1=10)

- Q.1 Tell the unit of flux density. (CO-6)
- Q.2 In lead acid cell, +ve plate is ..... (CO-10)
- Q.3 Show tell the time period of sinusoidal wave at standard frequency in India. (CO-7)
- Q.4 In a.c. circuits product of voltage and current is known as ..... (CO-7)
- Q.5 Tell the unit of capacitive reactance. (CO-7)
- Q.6 The emitter is ..... doped. (CO-8)
- Q.7 If the operating point in transistor changes, it results into..... (CO-11)

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- Q.8 In JFET drain current will be maximum when bias is ..... (CO-13)
- Q.9 Core of a transformer is generally made of ..... (CO-14)
- Q.10 In a 4 pole wave wound armature of d.c. machine, the number of parallel paths will be equal to ..... (CO-14)

### SECTION-B

**Note:** Very short answer type questions. Attempt any five questions out of seven questions. 5x2=10

- Q.11 Define permeability. (CO-6)
- Q.12 State Peak factor of an alternating quantity. (CO-7)
- Q.13 Define impedance of an electric circuit. (CO-7)
- Q.14 Describe PNP transistor. (CO-8)
- Q.15 State faithful amplification. (CO-9)
- Q.16 Define solar cell. (CO-10)
- Q.17 Define transformation ratio of transformer. (CO-14)

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### SECTION-C

**Note:** Short answer type questions. Attempt any six questions out of eight questions.  $6 \times 4 = 24$

Q.18 State Faraday's Laws of electromagnetic induction. (CO-6)

Q.19 Distinguish between primary and secondary cells. (CO-10)

Q.20 Define the terms RMS value and average value of a sinusoidal wave. (CO-7)

Q.21 Define power factor in A.C. circuits. State atleast two disadvantages of low power factor. (CO-7)

Q.22 Tell the function of Emitter, Base and Collector in the operation of a junction transistor. (CO-8)

Q.23 State the importance of transistor biasing. Name the different methods used for transistor biasing. (CO-11)

Q.24 Compare JFET and Bipolar Transistor. (CO-13)

Q.25 Draw  $N-I_a$  and  $T-I_a$  Characteristics of a d.c. shunt motor. (CO-14)

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### SECTION-D

**Note:** Long answer type questions. Attempt any two questions out of three questions.  $2 \times 8 = 16$

Q.26 Summarize the care and maintenance of lead acid batteries. (CO-10)

Q.27 Derive the equation of current when alternating voltage is applied to resistance and capacitance in series (R-C series circuit) (CO-6)

Q.28 Name various parts of a d.c. motor. (CO-14)

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