

No. of Printed Pages : 4

Roll No.

180817

1st Year / Computer Engg.

Subject : Fundamentals of Electrical & Elex. Eng.

Time : 3 Hrs.

M.M. : 60

SECTION-A

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

Q.1 The emitter terminal of a transistor is _____ doped (CO10)

- a) Lightly
- b) Moderately
- c) Heavily
- d) None of the above

Q.2 The unit of Inductance is _____ (CO6)

- a) Weber
- b) Henry
- c) Farads
- d) Ampere

Q.3 In a lead-acid battery the electrolyte is _____ (CO7)

- a) Potassium Hydroxide
- b) Dilute Nitric Acid
- c) Dilute Sulphuric Acid
- d) None of the above

Q.4 The windings of a Transformer is made of _____ material (CO13)

- a) Aluminum
- b) Nickel
- c) Copper
- d) Tungsten

Q.5 The frequency of d.c is

- a) 50 Hz
- b) 200 Hz
- c) 0 Hz
- d) 500 Hz

Q.6 Resonant frequency of a given resonant circuit is _____ (CO9)

- a) Independent of values of circuit components
- b) Independent of quality factor of coils
- c) Both a) and b)
- d) Depends upon circuit components

SECTION-B

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

Q.7 A good biasing circuit should stabilize the collector current against temperature variations. (True/False) (CO11)

Q.8 Draw the symbol of n-channel FET (CO12)

Q.9 What is permeability? (CO6)

Q.10 What do you mean by transistor biasing? (CO11)

Q.11 In a purely inductive circuit, the voltage _____ the current by 90 degrees (CO8)

(1)

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(2)

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Q.12 The function of a transistor is to do _____ (CO10)

SECTION-C

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

Q.13 What is the analogy between electric and magnetic circuit? (CO6)

Q.14 Define primary and secondary cells with examples. (CO7)

Q.15 What do you mean by power factor? State disadvantages of low power factor. (CO9)

Q.16 What is the difference between BJT & FET? (CO12)

Q.17 What is the impact of AC applied to a purely capacitive circuit? (CO8)

Q.18 Explain the principle of operation of a DC Motor and its types. (CO13)

Q.19 Draw a sketch showing the structure of a NPN junction transistor & explain the function of each terminal of a transistor. (CO10)

Q.20 What is the need of transistor biasing? (CO11)

Q.21 What are the charging methods used for a lead acid battery? (CO7)

Q.22 How a transistor can be used as an amplifier? (CO10)

SECTION-D

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

Q.23 Explain the transistor in CB Configuration with neat and clean circuit diagram and input and output characteristics. (CO10)

Q.24 Write a short note on series and parallel grouping of cells/ Batteries. (CO7)

Q.25 Explain principle of construction, operation and characteristics of a MOSFET with applications. (CO12)