Reg. No. : | | | | | | | | | | |

Question Paper Code: 58462

B.E. / B.Tech. DEGREE EXAMINATION, APRIL 2019

ONE CREDIT COURSE

Electronics and Communication Engineering

15UEC862 - PCB DESIGN

(Regulation 2015)

Duration: One hour   Maximum: 50 Marks

Answer ALL Questions

PART A - (30 x 1 = 30 Marks)

1. What kind of paper is used for PCB layout

    (a) Butter flim   (b) A4
    (c) plastic coated paper   (d) Normal paper

2. After etching the remaining copper path called

    (a) Traces   (b) Pad   (c) Vias   (d) Holes

3. _____used for soldering.

    (a) Ferric chloride   (b) Ferrous chloride   (c) SiO2   (d) Carbon

4. Modern devices are used as

    (a) Single layer   (b) Double layer   (c) Multi layer   (d) None of these

5. A rheostat is a form of

    (a) variable capacitor   (b) variable resistor
    (c) potentiometer   (d) thermocouple

6. Example of a Photo resistor

    (a) LDR   (b) Photo diode   (c) Diode   (d) CFL

7. Thermocouple is a type of

    (a) Switch   (b) Resistor   (c) Rectifier   (d) Diode

8. Microfarad equivalent to

    (a) 10^{-12} (b) 10^{-4} (c) 10^{-6} (d) 10^{-8}

9. Capacitance increase with

    (a) Larger plate area and less distance between plates
    (b) Higher values of applied voltage
    (c) Larger plate area and greater distance between plates
    (d) Smaller plate area and less distance between plates

10. Define ohm's law

    (a) V=IR   (b) V=I/R   (c) V=R/I   (d) I=VR

11. Example for semiconductor

    (a) Diode   (b) Resistor   (c) Capacitor   (d) Inductor

12. The varactor diode is usually

    (a) forward biased   (b) reverse biased
    (c) unbiased   (d) holes and electronics

13. LED produces _____ generation light resulting in high efficiency.

    (a) cold   (b) hot   (c) normal   (d) none of these

14. The minimum gate current which can turn on SCR is called

    (a) trigger current   (b) holding current
    (c) junction   (d) break over current

15. Piezo-electric convert

    (a) Electrical into mechanical   (b) Mechanical into electrical
    (c) Vibration into electrical   (d) Electrical into light

16. The stepper motor which have multiple coils that are organized in groups called

    (a) Phases   (b) Neutral   (c) Rotor   (d) Stator

17. LM-293(H-bridge) act as a driver circuit for

    (a) Motor   (b) Rectifier   (c) Condensor   (d) None of these

18. Which convert light energy into electrical energy?

    (a) LED   (b) Photo diode   (c) Filter   (d) LVDT

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19. Identify the correct statement

   (a) The cathode lead is longer. it goes to negative rail
   (b) The cathode lead is shorter. it goes to negative rail
   (c) The cathode lead is shorter. it goes to positive rail
   (d) The cathode lead is longer. it goes to positive rail

20. Electron flow assumes charges flow from

   (a) Positive to Negative   (b) Positive to Positive
   (c) Negative to Positive   (d) Negative to Negative

21. Sensor which is used to sense human

   (a) IR   (b) PIR
   (c) Precipitations   (d) Accelerometer

22. A DC voltage

   (a) Rises and falls   (b) is a sinewave
   (c) Remains constant   (d) is an audio waveform

23. Which convert physical energy into electrical energy Vice-Versa?

   (a) Motor   (b) Transducer   (c) Precipitations   (d) OP-AMP

24. IC 4017 counts from

   (a) 0 to f   (b) 0 to 99   (c) 0 to 9   (d) 0 and 1

25. Which device used to transfer electrical energy from one circuit into another circuit without changing the frequency?

   (a) Generator   (b) AC motor   (c) Transformer   (d) DAC

26. Which chemical is used for etching process?

   (a) ferric chloride   (b) sulphuric acid
   (c) ferrous sulphate   (d) hydrochloric acid

27. IC stands for

   (a) integrated circuit   (b) intelligence circuit
   (c) intensive circuit   (d) internal component

28. LED stands for

   (a) Light Emitting Diode   (b) Light Emitted Display
   (c) Liquid Emitted Display   (d) None of these

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29. Which IC Senses analog voltage levels

    (a) LM 3914   (b) MAX 232   (c) IC4017   (d) IC555

30. LDR stands for

    (a) Light Dependent Resistor   (b) Light Dependent Resonator

    (c) Long Delay Resistor   (d) Light Delay Resistor

PART - B (1 x 20 = 20 Marks)

31. (a) (i) Give the types of diodes with necessary diagrams   (10)

    (ii) Explain about the process of PCB layout design in software with an example.

        (10)

Or

    (b) (i) Explain the types of electronics components and explain about it.   (10)

    (ii) What are the colours in Resistor and also find the resistance value using colour coding with an example.   (10)