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Question Paper Code: 58462

B.E. / B.Tech. DEGREE EXAMINATION, NOV 2018

One Credit

Electronics and Communication Engineering

15UEC862 - PCB DESIGN

(Regulation 2015)

Duration: 1.30 hour

Maximum: 50 Marks

Answer ALL Questions

PART A - (30 x 1 = 30 Marks)

- What are the precautions are made using pcb designing?
 - wearing gloves
 - check the current
 - check the voltages
 - all of these
- Sensors used to detect metallic parts only:
 - Optical sensors
 - Ultrasonic proximity sensors
 - Capacitive proximity sensors
 - Inductive proximity sensors
- Component placed only on top side called
 - Multilayer
 - Single layer
 - Double layer
 - Three layer
- The component which character is to oppose current flow
 - Capacitor
 - Resistor
 - Diode
 - Transistor
- Voltage is an _____ force.
 - electromotive
 - electro static
 - electrolytic
 - electrolysis
- Example of a Photo resistor
 - LDR
 - Photo diode
 - Diode
 - CFL

7. RED led wavelength
 (a) $620 < \lambda < 645$ (b) $610 < \lambda < 620$ (c) $520 < \lambda < 550$ (d) $490 < \lambda < 520$
8. Modern devices are used as
 (a) Single layer (b) Double layer (c) Multi layer (d) None of these
9. A resistor with colour bands Red, Violet, Green and Black will have a value
 (a) $27 \text{ K} \pm 10\% \text{ K}$ (b) $2.7 \text{ M} \pm 20\% \text{ K}$
 (c) $270 \text{ K} \pm 5\% \text{ K}$ (d) $2.7 \text{ K} \pm 2\% \text{ K}$
10. The diode used for rectifier circuit is
 (a) 1N4001 (b) 1N5001 (c) 1N 8086 (d) none of these
11. Microfarad equivalent to
 (a) 10^{-12} (b) 10^{-4} (c) 10^{-6} (d) 10^{-812} .
12. Which having the ability to generate extremely short pulses
 (a) Step Recovery Diode (SRD) (b) Constant Current Diodes
 (c) Schottky Diode (d) Shockley Diode
13. Example for semiconductor
 (a) Diode (b) Resistor (c) Capacitor (d) Inductor
14. PCB stands for
 (a) printed circuit board (b) printed copper board
 (c) polymerised copper board (d) none of these
15. Piezo-electric convert
 (a) Electrical into mechanical (b) Mechanical into electrical
 (c) Vibration into electrical (d) Electrical into light
16. 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

17. LM-293(H-bridge) act as a driver circuit for
 (a) Motor (b) Rectifier (c) Condensor (d) None of these
18. The diode used for rectifier circuit is
 (a) 1N4001 (b) 1N5001 (c) 1N 8086 (d) none of these
19. LDR stands for
 (a) light dependent resistor (b) light dependent resonator
 (c) long delay resistor (d) light delay resistor
20. Which convert light energy into electrical energy?
 (a) LED (b) Photo diode (c) Filter (d) LVDT
21. Which IC give a desired output?
 (a) IC 78XX (b) IC 555 (c) IC 4017 (d) MAX 232
22. Which convert physical energy into electrical energy Vice-Versa?
 (a) Motor (b) Transducer (c) Precipitations (d) OP-AMP
23. The timer IC is
 (a) 555 (b) 444 (c) 222 (d) 777
24. The most popular form of IC package is
 (a) DIL (b) Flat pack (c) TO-5 (d) None of these
25. The process of removing copper in the pcb designing board is called
 (a) eracing (b) enhancing (c) etching (d) evoparating
26. Which chemical is used for etching process?
 (a) ferric chloride (b) sulphuric acid
 (c) ferrous sulphate (d) hydrochloric acid
27. Which of the following is most difficult to fabricate in an IC?
 (a) Diode (b) Transistor (c) FET (d) Transformer
28. SPST stands for
 (a) single pole single through (b) single polymerised single through
 (c) systematic pole single through (d) silicon polymerised switch

29. In a ac house hold appliance the frequency is in _____ Hz

- (a) 230 (b) 220 (c) 50 (d) 60

30. The most popular form of IC package is

- (a) DIL (b) Flat pack (c) TO-5 (d) None of these

PART - B (1 x 20 = 20 Marks)

31. (a) (i) Explain about different types of IC. (8)

(ii) Explain about the process of PCB layout design in software with an example. (12)

Or

(b) (i) what are the colours in Resistor and also find the resistance value using colour coding with an example. (8)

(ii) Explain the working function of the following circuits. (12)

