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Question Paper Code: 58462

B.E. / B.Tech. DEGREE EXAMINATION, MAY 2022

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)

- Component placed only on top side called
(a) Multilayer (b) Single layer (c) Double layer (d) Three layer
- _____ Used for soldering
(a) Ferric chloride (b) SiO₂ (c) Ferrous chloride (d) Carbon
- Modern devices are used as
(a) Single layer (b) Double layer (c) Multi layer (d) None of the above
- The component which character is to oppose current flow
(a) Capacitor (b) Resistor (c) Diode (d) Transistor
- A resistor with colour bands Red, Violet, Green and Black will have a value
(a) 27 K \pm 10% K (b) 2.7 M \pm 20% K (c) 270 K \pm 5% K (d) 2.7 K \pm 2% K
- Example of a Photo resistor
(a) LDR (b) Photo diode (c) Diode (d) CFL

7. If two resistor are connected in series, is the final resistance:
 (a) Higher (b) Lower (c) Same (d) Not determined
8. The diode used for rectifier circuit is
 (a) 1N4001 (b) 1N5001 (c) 1N 8086 (d) none of these
9. Microfarad equivalent to
 (a) 10^{-12} (b) 10^{-4} (c) 10^{-6} (d) 10^{-8} .
10. Which having the ability to generate extremely short pulses
 (a) Step Recovery Diode (SRD) (b) Constant Current Diodes
 (c) Schottky Diode (d) Shockley Diode
11. Thermocouple is a type of _____
 (a) switch (b) Resistor (c) Rectifier (d) Diode
12. Example for semiconductor
 (a) Diode (b) Resistor (c) Capacitor (d) Inductor
13. PCB stands for
 (a) printed circuit board (b) printed copper board
 (c) polymerised copper board (d) none of these
14. Piezo-electric convert
 (a) Electrical into mechanical (b) Mechanical into electrical
 (c) Vibration into electrical (d) Electrical into light
15. 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

16. What kind of paper is used for PCB layout
 (a) Butter flim (b) Normal paper (c) A4 (d) Plastic coated paper
17. If we connect the capacitor in parallel ,it act as
 (a) Storage device (b) Switch (c) Filter (d) Charging/Discharging
18. Which convert light energy into electrical energy?
 (a) LED (b) Photo diode (c) Filter (d) LVDT
19. Which IC give a desired output?
 (a) IC 78XX (b) IC 555 (c) IC 4017 (d) MAX 232
20. Which convert physical energy into electrical energy Vice-Versa?
 (a) Motor (b) Transducer (c) Precipitations (d) OP-AMP
21. The timer IC is
 (a) 555 (b) 444 (c) 222 (d) 777
22. What factors influence PCB fabrication cost
 (a) PCB size (b) Hole diameter (c) Layer count (d) All of the above
23. The most popular form of IC package is
 (a) DIL (b) Flat pack (c) TO-5 (d) None of these
24. The process of removing copper in the pcb designing board is called
 (a) Eracing (b) Enhancing (c) Etching (d) Evoparating
25. Which chemical is used for etching process?
 (a) ferric chloride (b) sulphuric acid
 (c) ferrous sulphate (d) hydrochloric acid
26. The varactor diode is usually
 (a) Forward biased (b) Unbiased (c) reverse biased (d) holes and electronics
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 polymorised single through
(c) systamatic pole single through (d) silicon polymorised switch

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

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

30. A rheostat is a form of

- (a) Variable capacitor (b) Potentiometer (c) Variable resistor (d) Thermocouple

PART - B (1 x 20 = 20 Marks)

31. (a) (i) Give types of diodes with necessary diagrams. (8)

(ii) Explain about different types of IC. (12)

Or

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

(ii) Write some software name for design a PCB layout and briefly explain about any one. (8)
