Reg.No. \_\_\_\_\_\_\_\_\_\_\_\_



**UNIVERSITY**

(Karunya Institute of Technology & Sciences)

(Declared as Deemed-to-be University under Sec.3 of the UGC Act, 1956)

**End Semester Examination – Nov/Dec – 2016**

|  |  |  |  |
| --- | --- | --- | --- |
|  |  | **Semester :** | **2016-17 ODD** |
| **Code :** | **16EC1001** | **Duration :** | **3hrs** |
| **Sub. Name :** | **ELECTRONICS FOR EVERYDAY LIFE** | **Max. marks :** | **100** |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Q. No.** | **Questions** | | | | **Course outcome** | **Marks** |
| **PART-A (40X1=40 MULTIPLE CHOICE QUESTIONS)** | | | | | | |
| 1. | Rheostat is a | | | |  |  |
|  | a.inductor | b.capacitor | c.filter | d.resistor | CO1 | (1) |
| 2. | The NPN transitor has | | | |  |  |
|  | a. Three junction | b. two junction | c. four junction | d. one junction | CO1 | (1) |
| 3. | Highly doped diode which is used as a regulator is | | | |  |  |
|  | a. Tunnel diode | b. photodiode | c. zener diode | d. PN diode | CO1 | (1) |
| 4. | What is the resistance value for the colour band sequence Yellow-Blue-Red-Gold in resistor | | | |  |  |
|  | a. 47 ohm with 10% tolerance | b. 49 ohm with 5% tolerance | c. 48 ohm with 1% tolerance | d. none | CO1 | (1) |
| 5. | The resistance of a given material is | | | |  |  |
|  | a. Directly proportional to its area of cross section | b. inversely proportional to tits length | c. Directly proportional to the square of the applied voltage | d. Directly proportional to its length L | CO1 | (1) |
| 6. | What is the resistance offered by the capacitor with capacitance value 100 farad to 10 KHz frequency signal? | | | |  |  |
|  | a. 1.5 x 10^-6 ohm | b. . 1.5 x 10^-6 mho | c. 15 x 10^-6 ohm | d. none | CO1 | (1) |
| 7. | The electrical energy consumed by a coil is stored in the form of: | | | |  |  |
|  | a. electric field | b. force field | c. electrostatic field | d. magnetic field | CO1 | (1) |
| 8. | In a photodiode, the intensity of the incident light is \_\_\_\_\_\_\_\_\_\_\_\_\_ to the current generated in the circuit. | | | |  |  |
|  | a. directly proportional | b. Indirectly proportional | c. increased | d. decreased | CO1 | (1) |
| 9. | The base of a transistor is ………….. doped | | | |  |  |
|  | **a. lighly** | **b. moderately** | **c. heavily** | **d. none of the above** | CO1 | (1) |
| 10. | In a transistor ……………….. | | | |  |  |
|  | a. IC = IE + IB | b.IB = IC + IE | c.IE = IC – IB | d. IE  = IC + IB | CO1 | (1) |
| 11. | **What is the octal equivalent of the binary number 10111101?** | | | |  |  |
|  | **a. 573** | **b. 572** | **c. 275** | **d. 675** | CO2 | (1) |
| 12. | Convert (139)10 to ( )2 | | | |  |  |
|  | a 10001011 | b. 11001011 | c. 10101011 | d. 10001001 | CO2 | (1) |
| 13. | What is the largest decimal number that can be expressed with 4 bits? | | | |  |  |
|  | a. 15 | b. 16 | c. 1111 | d. 9999 | CO2 | (1) |
| 14. | Combinational circuit has | | | |  |  |
|  | a.N input and M output | 1. No memory | c.No feedback | d.All the above | CO2 | (1) |
| 15. | Adder is a \_\_\_\_\_\_\_\_ | | | |  |  |
|  | a.Sequential circuit | b.Combinational circuit | c.Analog circuit | d.Counter circuit | CO2 | (1) |
| 16. | Half adder is capable of adding | | | |  |  |
|  | a. two -one bit | b. two-two bits | c. two-Three bits | d. All the above | CO2 | (1) |
| 17. | Which algebra has a set of rules, laws and theorems by which logical operations can be expressed mathematically? | | | |  |  |
|  | a. Binary | b. Modern | c. Boolean | d. Vector | CO2 | (1) |
| 18. | To create a P-type semiconductor, the \_\_\_\_\_\_\_\_\_\_\_\_valent impurity is added with intrinsic semiconductor | | | |  |  |
|  | a. Penta | b. Tri | c. Tetra | d. Octa | CO1 | (1) |
| 19. | The contents of the EPROM are erased by | | | |  |  |
|  | a. Discharging the Chip. | b.Overcharging the chip. | c. Exposing the chip to UV rays. | d. Exposing the chip to IR rays. | CO2 | (1) |
| 20. | The items that you can physically touch in a computer system are called: | | | |  |  |
|  | a. Software | b. firmware | c. Hardware | d. None of the above | CO3 | (1) |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| 21. | C programming is a \_\_\_\_\_\_\_\_\_\_ | | | |  |  |
|  | a.Software | b.Hardware | c.Firmware | d.None | CO3 | (1) |
| 22. | Identify the input device in an ATM machine | | | |  |  |
|  | a.Keypad | b.Display | c.Processor | d.Controller | CO3 | (1) |
| 23. | Identify the Output device in a washing machine | | | |  |  |
|  | a.Keypad | **b.**Display | c.Processor | d.Controller | CO3 | (1) |
| 24. | What is meant by ALU | | | |  |  |
|  | a. Arithmetic logic upgrade | b.Arithmetic logic unsigned | c.Arithmetic logic unit | d.Arithmetic Legal Unit | CO3 | (1) |
| 25. | Another name for input/output device is | | | |  |  |
|  | a.Printer | b.Plotter | c.Peripheral | d.Display | CO3 | (1) |
| 26. | An embedded system is a system meant for \_\_\_\_\_\_\_\_\_\_\_\_\_ application | | | |  |  |
|  | a.One | b.Two | c.Many | d.Three | CO3 | (1) |
| 27. | The brain of any computer system is | | | |  |  |
|  | a.ALU | b.Memory | c. CPU | d. input/output | CO3 | (1) |
| 28. | Pentium is a \_\_\_\_\_\_\_\_\_\_ | | | |  |  |
|  | a.Software | b.Processor | c.Computer | d.Tablet | CO3 | (1) |
| 29. | An embedded system is a system with \_\_\_\_\_\_\_\_\_and \_\_\_\_\_\_\_\_\_\_\_ | | | |  |  |
|  | a.Hardware And Software | b.Software And Peripherals | c.Hardware And Peripherals | d.Input And Hardware | CO3 | (1) |
| 30. | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ number system is composed of only two digits 0 and 1 | | | |  |  |
|  | a. Hexa | b. Binary | c. Octal | d. Decimal | CO2 | (1) |
| 31. | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ is the medium through which the signal travels from the transmitter to the receiver | | | |  |  |
|  | a. Fascimile | b. Telegraphy | c. Telephony | d. Channel | CO3 | (1) |
| 32. | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ is the process of changing some parameters of high frequency carrier signal in accordance with the instantaneous variations of the message signal | | | |  |  |
|  | a. Transmission | b. Demodulation | c. Radiation | d. Modulation | CO3 | (1) |
| 33. | IOT is \_\_\_\_\_\_\_\_\_\_ | | | |  |  |
|  | a. Intranet Of Things | b. Internet Out Of Things | c. Internet Of Things | d. Intranet Out Of Things | CO3 | (1) |
| 34. | The process of extracting low frequency signal from a high frequency is called as \_\_\_\_\_\_\_\_\_\_\_\_\_\_ | | | |  |  |
|  | a.Modulation | b. Demodulation | c. Transmission | d. Reception | CO3 | (1) |
| 35. | SIM stands for | | | |  |  |
|  | a. Subscriber Identity Module | b. Subscriber Indication Module | c. Subscriber Identify Module | d. Subscriber Instant Module | CO3 | (1) |
| 36. | The majority carrier in p-type semiconductor is | | | |  |  |
|  | a. electrons | b. holes | c. electorns | d. none | CO1 | (1) |
| 37. | Only \_\_\_\_\_\_\_\_\_\_waves can propagate through optical cables. | | | |  |  |
|  | a. light | b. Electromagnetic | c. Radio | d. Audio | CO1 | (1) |
| 38. | Radio waves are \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ waves that *antennas* propagate. | | | |  |  |
|  | a. Electromagnetic | b. optic | c. both | d. none | CO1 | (1) |
| 39. | Cellular network/telephony is a \_\_\_\_\_\_\_\_\_\_\_\_based technology. | | | |  |  |
|  | a. Radio | b. Video | c. Audio | d. none | CO3 | (1) |
| 40. | Wi-Fi is \_\_\_\_\_\_\_\_\_\_\_\_ | | | |  |  |
|  | a. Wireless Fidelity | b. Wired Fidelity | c. Wireless Flee | d. Wired Flee | CO3 | (1) |

|  |  |  |  |
| --- | --- | --- | --- |
| **PART B(8 X 5 = 40 MARKS) (ANSWER ANY EIGHT)** | | | |
| 41. | Differentiate n- type and p-type semiconductor. | CO1 | (5) |
| 42. | Rectify the mistake in the circuit and justify your answer. | CO1 | (5) |
| 43. | Illustrate the principle behind the conversion of Light energy into electrical energy in a photodiode. | CO1 | (5) |
| 44. | Write the truth table for the given logic circuit. | CO2 | (5) |
| 45. | Draw the basic block of combinational and sequential circuit and list out their differences. | CO2 | (5) |
| 46. | Convert the decimal number (74.3125)10 to binary, octal and hexadecimal | CO2 | (5) |
| 47. | Explain the process involved in the transmitter side of a communication system. | CO3 | (5) |
| 48. | Define IoT. Justify how IoT can help the disabled? | CO3 | (5) |
| 49. | Sketch the block diagram of washing machine. Mention the input and output device. | CO3 | (5) |
| 50. | Compare and Contrast 4G and 5G mobile technology. | CO3 | (5) |
| **PART C( 2 X 10 = 20 MARKS) (ANSWER ANY TWO)** | | | |
| 51. | With neat sketch and V-I characteristic curve explain the operation of PN junction diode. | CO1 | (10) |
| 52. | Draw the block diagram of ATM machine and explain the system in detail. | CO3 | (10) |
| 53. | Explain how GPS is used in vehicle navigation system. | CO3 | (10) |

ALL THE BEST