Q.23 Draw and explain the block diagram of Moore machine.

Q.24 Design a Mod - 5 counter using JK flip flop.

Q.25 Explain NAND gate using CMOS.

Q.26 Define A/D converter. Write any 3 applications of A/D converter.

Q.27 Explain in brief about PAL.

Q.28 List five differences between DRAM and SRAM.

Q.29 Draw a logic circuit diagram that indicate addition and subtraction of two number.

Q.30 Define A.L.U. Draw the block diagram of Ic74181.

Q.31 Define fuzzy logic, Fuzzy set, Defuzzification.

Q.32 Explain fuzzy control system in brief.

Q.33 Differentiate between synchronous and asynchronous sequential circuit.

Q.34 Draw and explain the block diagram of CCD.

Q.35 Define Gain, Linearity, offset error.

SECTION-D

Note: Long answer type questions. Attempt any two questions out of three questions. (2x10=20)

Q.36 Reduce the following Boolean expressions by using the tabulation method:

Y = =å m (0, 3,5,6,8,9,10,11,12)

Q.37 Define logic family and compare CMOS and TTL on the basis of their characteristics.

Q.38 Define memory. Explain in detail about ROM and its types.

No. of Printed Pages : 4

Roll No. .....

121044/031044

E.CE.

Subject : Digital Electronics - II

Time : 3 Hrs. M.M. : 100

SECTION-A

Note: Multiple choice questions. All questions are compulsory (10x1=10)

Q.1 The flash type A/D converters are called as

a) Parallel non-inverting A/D converter
b) Parallel counter A/D converter
c) Parallel inverting A/D converter
d) Parallel comparator A/D converter.

Q.2 Which of the following is a binary weighted DAC?

a) R-2R ladder DAC
b) PWN DAC
c) Switched resistor DAC
d) Sampling DAC

Q.3 MSI includes_____gates per chip.

a) 12 to 99 b) 13 to 50
c) greater than 10 d) greater than 100

Q.4 Which of the following logic family dissipates minimum power?

a) CMOS b) ECL
c) TTL d) DTL

Q.5 Which one of the following is volatile in nature?

a) ROM b) EROM

c) PROM d) RAM

Q.6 PAL refers to_____.

a) Programmable Array Loaded

b) Programmable Logic Array

c) Programmable Array Logic

d) Programmable AND Logic

Q.7 In S-R flip-flop, if Q= 0 the output is said to be _____

a) Set b) Reset

c) Previous state d) Current state

Q.8 In mealy machine, the O/P depends upon?

a) State b) Previous State

c) State and input d) Only Input

Q.9 The truth values of traditional set theory is _____ and that of fuzzy set is_____.

a) Either 0 or 1, between 0 & 1

b) Between 0 & 1, either 0 or 1

c) Between 0 & 1, between 0 & 1

d) Either 0 or 1, either 0 or 1

Q.10 A.L.U can performs both arithmetic and_____

a) Logic operation b) Loading operation

c) Logging operation d) Learning operation

SECTION-B

Note: Objective Completion type questions. All questions are compulsory. (10x1=10)

Q.11 _____logic is the fastest of all the logic families.

Q.12 In S-R flip-flop, if Q = 0 the output is said to be _____.

Q.13 The logic circuits whose outputs at any instant of time depends only on the present input but also on the past outputs are called_____

Q.14 VLSI stands for_____.

Q.15 An M*N memory needs_____data lines.

Q.16 The most commonly used D/A converter is the binary ladder network. (True/False)

Q.17 A tri-state buffer has_____output states.

Q.18 A mealy machine is a finite-state machine whose output values are determined both by its current state and the current inputs.(True/False)

Q.19 The Quinine-McCluskey method is used for _____of Boolean functions.

Q.20 Successive approximation is slow for large bit application.(True/False)

SECTION-C

Note: Short answer type questions. Attempt any twelve questions out of fifteen questions. (12x5=60)

Q.21 Explain the working of TTL circuit with totem pole output.

Q.22 Draw and explain binary ladder network.

Q.26 Explain why TEM can not propagate along a wave guide.

Q.27 Draw fiels configuration of TE_{10} mode.

Q.28 Explain the working of VSAT in detail.

Q.29 Explain in brief the working of directional coupler.

Q.30 With the help of diagram, explain cassegrain feed mechanism in dish antenna.

Q.31 Show how a duct is formed?

Q.32 Explain basic principle of Pulse Radar.

Q.33 Explain in brief about TDMA.

Q.34 Write in detail the main components of CW Radar.

Q.35 Explain how propagation of waves takes place in wave guides.

SECTION-D

Note: Long answer type questions. Attempt any two questions out of three questions. (2x10=20)

Q.36 Draw and explain the MTI RADAR.

Q.37 With the help of neat diagram, explain Reflex Klystron.

Q.38 Explain Microwave communication link in detail.

No. of Printed Pages : 4
Roll No. .....

121053/31053

5th Sem./ Electronics & Communication

Subject : Microwave & Radar Engineering

Time : 3 Hrs. M.M. : 100

SECTION-A

Note: Multiple choice questions. All questions are compulsory (10x1=10)

Q.1 Klystron works on the principle of_____ modulation.

a) Amplitude b) Frequency
c) Phase d) Velocity

Q.2 The dielectric in wave guides is_____.

a) Glass b) Air
c) Paper d) Mica

Q.3 1 GHz = _____

a) 10^3 Hz b) 10^6 Hz
c) 10^9 Hz d) 10^{12} Hz

Q.4 The number of cavities in reflex klystron are _____

a) zero b) 1
c) 2 d) 3

Q.5 The commonly used mode for transmission is_____

a) TE_{01} b) TE_{10}

c) TE_{02} d) TE_{20}

Q.6 A magic TEE has_____number of ports

a) 1 b) 2

c) 3 d) 4

Q.7 Radiation pattern of horn antenna is_____

a) Unidirectional b) Bi-directional

c) Omnidirectional d) None of these

Q.8 Height of Troposphere is_____

a) 2 k.m b) 5 k.m

c) 10 k.m d) 20 k.m

Q.9 RADAR used in altimeters is_____

a) Pulse b) CW

c) FMCW d) MTI

Q.10 At microwave frequencies, the size of antenna becomes_____

a) Large b) Very large

c) Small d) Very small

SECTION-B

Note: Objective Completion type questions. All questions are compulsory. (10x1=10)

Q.11 Expand the term RADAR.

Q.12 What is the frequency range of L-BAND.

Q.13 IMPATT stands for_____.

Q.14 Write any one application of microwaves .

Q.15 Define transit time.

Q.16 Define coupling factor.

Q.17 Define a repeater.

Q.18 Define Faraday's Rotation law.

Q.19 Expand FDMA.

Q.20 Define phase velocity.

SECTION-C

Note: Short answer type questions. Attempt any twelve questions out of fifteen questions. (12x5=60)

Q.21 Explain the advantages of microwaves.

Q.22 What is Phase focusing effect in magnetron.

Q.23 Explain GUNN effect in detail.

Q.24 Show how bunching takes place in T.W.T?

Q.25 Explain various problems associated with vacuum tubes.

Q.25 What do you mean by inverter? List its applications.

Q.26 Explain UJT as an relaxation oscillator.

Q.27 Explain working of single phase half wave controlled rectifier.

Q.28 What is step down chopper? Draw its circuit and output waveform.

Q.29 What is dual converter? What are its applications?

Q.30 Give block diagram of online UPS.

Q.31 Write short note on series inverter.

Q.32 Differentiate between step up and step down chopper.

Q.33 What do you mean by electric drive? Draw its block diagram.

Q.34 Explain any one method of speed control of dc motor.

Q.35 What is SMPS? What is its use?

SECTION-D

Note: Long answer type questions. Attempt any two questions out of three questions. (2x10=20)

Q.36 Explain the construction and V-I characteristics of an SCR with the help of suitable diagrams.

Q.37 Explain with the help of waveform, the working of single phase full wave fully controlled bridge rectifier.

Q.38 Explain basic scheme for speed control of 3-phase induction motor using variable frequency method.

No. of Printed Pages : 4

Roll No. .....

121055/031055

5th Sem./ ECE

Subject : Power Electronics

Time : 3 Hrs. M.M. : 100

SECTION-A

Note: Multiple choice questions. All questions are compulsory (10x1=10)

Q.1 The most commonly used method for firing an SCR is

a) Light triggering

b) Gate triggering

c) Temperature triggering

Q.2 An SCR is a

a) Two layer two junction device

b) Three layer two junction device

c) Four layer three junction device

Q.3 A TRIAC can be fired

a) Only be negative half cycle of supply

b) Only by negative half cycle of supply

c) Both by positive as well as negative half cycles of supply

Q.4 UJT is widely used as

a) Oscillator b) Pulse circuit

c) both 1 & 2

Q.5 A single phase full wave fully controlled bridge uses

a) 4 SCR's b) 6 SCR's

c) 2 SCR's

Q.6 A freewheeling diode is used in a controlled rectifier circuit in case of

a) Capacitive load b) inductive load

c) resistive load

Q.7 HVDC transmission system generally uses

a) 12 pulse converter b) 3 pulse converter

c) 6 pulse converter

Q.8 An inverter converts

a) dc into variable b) ac into dc

c) dc into ac

Q.9 A step up chopper can give output voltage

a) higher than input voltage

b) lower than input voltage

c) both higher and lower than input voltage

Q.10 UPS is never used in

a) Street lighting

b) Communication link

c) Computer

SECTION-B

Note: Objective Completion type questions. All questions are compulsory. (10x1=10)

Q.11 Give full form of SCR.

Q.12 Draw the symbol of DIAC.

Q.13 The anode of SCR is always maintained at negative potential w.r.t cathode.

Q.14 A TRIAC is equivalent to_____SCRs connected in anti parallel.

Q.15 What is the value of firing angle for maximum output voltage of a controlled rectifier.

Q.16 SMPS stands for_____.

Q.17 MOSFET is a current controlled device. (True/False)

Q.18 What is duty cycle?

Q.19 Cycloconverter is used for _____ (AC/DC) drives.

Q.20 Chopper converts fixed DC into _____.

SECTION-C

Note: Short answer type questions. Attempt any twelve questions out of fifteen questions. (12x5=60)

Q.21 Explain any one method of SCR triggering.

Q.22 Draw and explain V-I characteristics of TRIAC.

Q.23 Give working principle of Cycloconverter.

Q.24 Write a short note on heat sink.

Q.27 What is Electrode Tissue Interface?

Q.28 Name any five Diagnostic Equipment used in medical Electronics.

Q.29 Draw and explain ECG machine.

Q.30 Explain Blood Pressure Measurement System.

Q.31 Write short note on Gross current Shock.

Q.32 Write any five precautions to minimize electric shock hazards from biomedical equipment.

Q.33 Discuss the role of 'Bucky Grid' in X-Ray machine

Q.34 How does Photoelectric transducer work?

Q.35 Describe the working of ultrasonic blood flow meter.

SECTION-D

Note: Long answer type questions. Attempt any two questions out of three questions. 2x10=20

Q.36 Explain any one therapeutic equipment in detail with the help of diagram.

Q.37 Draw Block diagram and Explain EEG machine.

Q.38 Write short note on:

a) Defibrillator

b) Pace maker

No. of Printed Pages : 4

Roll No. 121061A

6th Sem. / Electronics and Communication

Subject : Medical Electronics

Time : 3 Hrs. M.M. : 100

SECTION-A

Note: Multiple choice questions. All questions are compulsory (10x1=10)

Q.1 Source of Bioelectric potential is_____in nature.

a) electronic b) electric

c) ionic d) mechanical

Q.2 From equipment point of view, the respiratory system in the human body is a_____system.

a) Hydraulic b) pneumatic

c) mechanical d) electrical

Q.3 Recording electrical activities associated with heart is known as_____.

a) EEG b) EOG

c) EMG d) ECG

Q.4 Active transducers work on the principle of____

a) energy conversion b) mass conversion

c) energy alteration d) volume conversion

Q.5 Which of the following is not a piezo-electric material?

a) quartz b) Rochelle salt

c) aluminium d) barium titanate

Q.6 Strain gauge is used to measure_____

a) temperature b) pressure

c) height d) displacement

Q.7 Thermistor is used to measure_____

a) temperature b) pressure

c) height d) displacement

Q.8 EMG instruments is useful for making study of _____.

a) cardiovascular function

b) neuromuscular function

c) nervous function

d) Immune function

Q.9 Unwanted signal at the output due either to internal sources or to interference is called____

a) offset b) noise

c) drift d) threshold

Q.10 LVDT works on the principle of_____

a) variable resistance

b) variable inductance

c) variable capacitance

d) variable pressure

SECTION-B

Note: Objective type questions. All questions are compulsory. 10x1=10

Q.11 The device used to measure the absorbence of specific solution or emitted heat is known as_____.

Q.12 Define Organ system.

Q.13 Name any example of Diagnostic Equipment.

Q.14 Define Bioelectric signals.

Q.15 Define ECG.

Q.16 Define Tissue.

Q.17 Define Heart Rate.

Q.18 Define Systolic pressure.

Q.19 Define Defibrillator.

Q.20 Define Pacemaker.

SECTION-C

Note: Short answer type questions. Attempt any twelve questions out of fifteen questions. 12x5=60

Q.21 Draw an explain the cell structure of human.

Q.22 Give basic idea about contact impedance.

Q.23 Give the principle of defibrillator.

Q.24 Write a short note on respiration sensor.

Q.25 Describe the anatomy of heart and circulatory systems.

Q.26 What do you mean by muscles action?

Q.23 Show the entity declaration for a half adder circuit.

Q.24 Explain in brief the data flow type of modeling.

Q.25 Explain different classes of data objects.

Q.26 List different operators.

Q.27 Expand PAL.

Q.28 Explain the scalar data types.

Q.29 Write a short note on "PEEL".

Q.30 With the help of diagram , explain the concept of CPLDs.

Q.31 What are advantages of FPGAs?

Q.32 Explain different types of delays.

Q.33 Explain in brief about case statements.

Q.34 Write VHDL code for T Flip flop.

Q.35 What is use of synthesis tool?

SECTION-D

Note: Long answer type questions. Attempt any two questions out of three questions. 2x10=20

Q.36 Explain in detail, overloading in VHDL. Write different types of overloading.

Q.37 Explain VHDL model and simulation of 3-bit down counter.

Q.38 Draw and explain general structure of PLA.

No. of Printed Pages : 4

Roll No. .....

121061B

6th Sem. / Electronics & Communication

Subject : VLSI System Design

Time : 3 Hrs. M.M. : 100

SECTION-A

Note: Multiple choice questions. All questions are compulsory (10x1=10)

Q.1 In what aspect, HDLs differ from other computer programming languages?

a) No aspect; both are same

b) HDLs describe hardware rather than executing a program on a computer

c) HDLs describe software and not hardware

d) Other computer programming languages have more complexity

Q.2 What is the advantages of using VHDL instead of any other HDL?

a) Week typing b) Based on ADA

c) Portability d) Easy to code

Q.3 Which of the following can be the name of an entity?

a) NAND b) Nand_gate

c) Nand gate d) AND

Q.4 GENERICs are not declared in the entity.

a) True b) False

Q.5 What does the architecture of an entity define?

a) External interface

b) Internal Functionally

c) Ports of the entity

d) Specifications

Q.6 Which of the following can't be declared in the declaration part of the architecture?

a) Signals b) Subprograms

c) Components d) Libraries

Q.7 Which of the following is the basic building block of a design?

a) Architecture b) Entity

c) Process d) Package

Q.8 A package in VHDL consists of_____

a) Commonly used architectures

b) commonly used tools

c) Commonly used data types and Subroutines

d) Commonly used syntax and variables

Q.9 Which of the following is not as assignment operator ?

a) <= b) :=

c) => d) =

Q.10 Which of the following is not a combinational circuit?

a) Adder b) Code converter

c) Multiplexer d) Counter

SECTION-B

Note: Objective type questions. All questions are compulsory. 10x1=10

Q.11 Expand the term VHDL.

Q.12 Define entity.

Q.13 <=what is this symbol implies?

Q.14 Define variable.

Q.15 What is there in between begin & end?

Q.16 Define basic identifier.

Q.17 Expand VLSI.

Q.18 What is the role of case statement?

Q.19 Expand FPAA.

Q.20 Define generics.

SECTION-C

Note: Short answer type questions. Attempt any twelve questions out of fifteen questions. 12x5=60

Q.21 List five applications of VHDL.

Q.22 Explain how entity declaration is done?

Q.28 Write short notes on keyboard Switches.

Q.29 Write short notes on RAM module.

Q.30 Explain briefly any two types of Scanner.

Q.31 Explain briefly hardware installation of Computer system.

Q.32 Explain briefly the different types of buses in PC.

Q.33 Draw the block diagram of CRT Display Monitor.

Q.34 Explain difference between COM1 & LPT1 port.

Q.35 Draw Block diagram of Single board based system.

SECTION-D

Note: Long answer type questions. Attempt any two questions out of three questions. 2x10=20

Q.36 Explain with diagram Construction & Working Principle of Laser Printer.

Q.37 Explain with diagram the principle & construction of Hard Disk Drive.

Q.38 Write short Notes on the following.

i) Centronic Interface

ii) Router

iii) WAN

No. of Printed Pages : 4

Roll No. 121062

6th Sem. / ECE

Subject : Maintenance of Computer System

Time : 3 Hrs. M.M. : 100

SECTION-A

Note: Multiple choice questions. All questions are compulsory (10x1=10)

Q.1 In ROM BIOS, the acronym BIOS stands for:

a) Basic Industry Operating System

b) Basic Input Output System

c) Basic Intuitive Output Set

d) Basic information operating system

Q.2 Which device is used to connect a number of LANS?

a) Modem b) Repeater

c) Switch d) Router

Q.3 On the PC side, the Printer port is a:

a) 25 Pin female serial connector

b) 15 Pin female parallel connector

c) 25 Pin female parallel connector

d) 15 Pin female serial connector

Q.4 RS-232 is a standard that applies to:

a) Parallel port b) Video port

c) Game port d) Serial port

Q.5 Which of the following port is used between CPU and RAM to speed up the processing power of a CPU?

a) Virtual Memory b) Cache Memory
c) DRAM d) Flash Memory

Q.6 The types of printers, in which the printing head contacts with the paper in printing process, are called as:

a) Non-impact printer b) Impact Printer
c) Soft printer d) None of these

Q.7 Refresh rate of a monitor is measured in:-

a) Volts b) Ampere
c) Watt d) Hz

Q.8 RAM stands for?

a) Random aligned Memory
b) Random Access Memory
c) Read Access Memory
d) Read Arithmetic memory

Q.9 NIC stands for:

a) Network International card
b) Network India card
c) Network Interface card
d) Network Information centre

Q.10 Every video card must have?

a) CMOS b) CPU
c) BIOS d) RAM

SECTION-B

Note: Objective Completion type questions. All questions are compulsory. 10x1=10

Q.11 Define Impact Printer.

Q.12 SCSI Stands for_____.

Q.13 _____is an example for non Impact Printer.

Q.14 HDD is_____memory.

Q.15 Scanner is a _____Device.

Q.16 Define Motherboard.

Q.17 Speed of Laser printer is defined in_____.

Q.18 Storage capacity of Hard disk is defined in____.

Q.19 Define Cache Memory.

Q.20 Name any two network connecting devices.

SECTION-C

Note: Short answer type questions. Attempt any twelve questions out of fifteen questions. 12x5=60

Q.21 Write four uses of computer for Instrumentation.

Q.22 Explain common faults with Hard disk drive.

Q.23 Explain the need and functions of Modem.

Q.24 Explain the difference between Hub & switch.

Q.25 Write short note on Monochrome display adaptors.

Q.26 Write short note on Printer Controller.

Q.27 Explain the basic principle of working of Inkjet Printer.

Q.28 What is computer networking ? Write two uses of networking?

Q.29 Explain any two Networking? connectivity devices

Q.30 Differentiate between IPV4 and IPV6 in five points?

Q.31 What are Routers and its two uses

Q.32 Explain the concept of leased line and its two advantages

Q.33 What do you mean by Super netting with Example?

Q.34 Distinguish between Logical and Physical addressing in five point

Q.35 Write the client server Networks with diagram

SECTION-D

Note: Long answer type questions. Attempt any two questions out of three questions. 2x10=20

Q.36 What is Network Cabling? List various types of network cable and explain any two types with diagram?

Q.37 What is OSI model? Explain various layers of OSI model?

Q.38 What are the different types of Networking Topologies?

No. of Printed Pages : 4

Roll No. ……

171062A/30861

6th SEM / Computer Engg, Electronics Engg.

Subject : Computer Network/Troubleshooting of Computer Networks

Time : 3 Hrs. M.M. : 100

SECTION-A

Note: Multiple choice questions. All questions are compulsory (10x1=10)

Q.1 URL stands for_____

a) Unique reference label

b) Uniform reference label

c) Uniform resource locator

d) Unique resource locator

Q.2 What is NIC?

a) National Informatics Centre

b) New Information Centre

c) National Internet centre

d) National Intranet Centre

Q.3 The term FTP stands for?

a) File transfer program

b) File transmission protocol

c) File transfer protocol

d) File transfer protection

Q.4 The first Network was called_____

a) CNNET b) NSFNET

c) ASAPNET d) ARPANET

Q.5 The term LAN stands for?

a) Local Area Net b) Local Area Network

c) Local Array Network

d) Local Array Net

Q.6 The term IPv4 stands for?

a) Internet Programming Version 4

b) International Programming Version 4

c) Internet Protocol Version 4

d) None of these

Q.7 A_____ set of rules that governs data communication.

a) Protocols b) Standards

c) RFCs d) Servers

Q.8 Which software prevents the external access to a system?

a) Gateway b) Router

c) Virus checker d) Firewall

Q.9 The term HTTP stands for?

a) Hypertext transfer program

b) Hypertext tracing protocol

c) Hypertext transfer protocol

d) Hypertext tracing program

Q.10 A device which can be connected to a network without using cable is

a) Distributed device b) Centralized device

c) Open-source device d) Wireless device

SECTION-B

Note: Objective type questions. All questions are compulsory. 10x1 = 10

Q.11 List any two types of troubles shooting tools in networking ?

Q.12 Full from of LAN_____

Q.13 What is Bluetooth?

Q.14 Expand RAID?

Q.15 What is IPv6?

Q.16 SMTP stand for_____

Q.17 What do you mean by Li-Fi

Q.18 What is switching?

Q.19 Define Sub netting?

Q.20 What is Modem?

SECTION-C

Note: Short answer type questions. Attempt any twelve questions out of fifteen questions. 12x5 = 60

Q.21 What is the use of RJ45

Q.22 Write any two advantages and two disadvantages of Wireless LAN

Q.23 Explain Cryptography and its two techniques?

Q.24 Write the five advantages of Wi-FI.

Q.25 What are the different classes of IP addressing?

Q.26 Define Ethical hacking and its two advantages?

Q.27 Differentiate between hub and switch with the help of two points

Q.26 What are different types of resistance transducers? (CO2)

Q.27 Explain working of thermocouple. (CO7)

Q.28 Explain how capacitive transducer works? (CO2)

Q.29 What is meaning of pH? What is range of pH value? (CO8)

Q.30 Explain working of load cell. (CO4)

Q.31 Explain working of bimetallic thermometer. (CO7)

Q.32 Explain U tube manometer. (CO5)

Q.33 What is ultrasonic flow meter? (CO6)

Q.34 Write short note on wire wound strain gauge. (CO3)

Q.35 What is piezoelectric phenomena? (CO2)

SECTION-D

Note: Long answer type questions. Attempt any two questions out of three questions. 2x10=20

Q.36 Draw the block diagram of basic measurement system and explain function of each element. (CO1)

Q.37 With the help of diagram, explain construction, working and applications of LVDT (CO3)

Q.38 Write short note on (CO5,2)

1) Bourdon tube
2) Piezoelectric transducers.

Note : Course Outcome (CO) mentioned in the question paper is for official purpose only.

No. of Printed Pages : 4

Roll No. .....

181041/121043/62444 /30954-A/105955/31062

ECE

Subject : Instrumentation / Instrument Process control

Time : 3 Hrs. M.M. : 100

SECTION-A

Note: Multiple choice questions. All questions are compulsory (10x1=10)

Q.1 The quantity to be measured is called (CO1)

a) Measured
b) Measurand
c) Instrument

Q.2 The primary sensing element may be a (CO1)

a) Transducer
b) Data storage device
c) PMMC instrument

Q.3 Transducer may be (CO2)

a) Active & passive
b) Analog & digital
c) Both 1 & 2

Q.4 Resistance of a wire wound potentiometer depends upon (CO3)

a) Length of wire
b) material of wire
c) Both 1 & 2

Q.5 Unit of force is (CO4)

a) Newton

b) Kgf

c) Joule

Q.6 Turning moment of a force about an axis is called (CO4)

a) Momentum

b) Torque

c) Acceleration

Q.7 Electromagnetic flow meter principle is based upon (CO6)

a) Ohm's law

b) Faraday's Law

c) Doppler's effect

Q.8 Theromocouple consists of (CO7)

a) Two similar metals

b) Two dissimilar metals

Q.9 Hygrometer is used to measure (CO8)

a) Pressure

b) Specific gravity

c) Moisture

Q.10 Output of a bimetallic element will be (CO7)

a) Strain

b) Pressure

c) Displacement

SECTION-B

Note: Objective Completion type questions. All questions are compulsory. 10x1=10

Q.11 Define measurement. (CO1)

Q.12 What is transducers? (CO2)

Q.13 Define strain. (CO3)

Q.14 Give full form of LCD. (CO1)

Q.15 What is pressure? (CO5)

Q.16 Piezoelectric transducer is an active transducer (True/False) (CO2)

Q.17 LVDT stands for_____. (CO3)

Q.18 Resistance of a strain gauge should be_____. (CO3)

Q.19 Force is a scalar quantity. (True/False) (CO4)

Q.20 Load cell converts_____into electrical signal. (CO4)

SECTION-C

Note: Short answer type questions. Attempt any twelve questions out of fifteen questions. (12x5=60)

Q.21 Explain various types of display devices used in instrumentation system. (CO1)

Q.22 How transducer are classified? (CO2)

Q.23 Discuss different types of Piezoelectric Transducers. (CO2)

Q.24 What is strain gauge? Define gauge factor. (CO3)

Q.25 What is operating principle of LVDT? (CO3)

Q.25 Explain briefly the different types of transmitters? (CO1)

Q.26 Differentiate between active and Passive satellites. (CO5)

Q.27 Explain yagi-uda antenna. (CO4)

Q.28 Explain the need of limiting in FM reception. (CO1)

Q.29 What is geo stationary satellite? Explain its need? (CO5)

Q.30 Explain the concept of simple and delayed AGC. (CO2)

Q.31 Explain the skip distance with diagram. (CO4)

Q.32 What is the critical frequency? (CO4)

Q.33 Explain dish antenna. (CO3)

Q.34 Draw the block diagram of AM transmitter. (CO1)

Q.35 Explain fidelity and image rejection ratio of radio receiver. (CO2)

SECTION-D

Note: Long answer type questions. Attempt any two questions out of three questions. (2x10=20)

Q.36 Give the comparison between ground, sky and space wave propagation. (CO4)

Q.37 Explain the Duct propagation. (CO4)

Q.38 Explain the working of super heterodyne AM receiver with block diagram. (CO2)

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Roll No. ..... 181042/171042/121042 /31042/105942/106563

4th Sem./ Eltx , Power Eltx

Subject : Comm. Sys/Comm. Engg.

Time : 3 Hrs. M.M. : 100

SECTION-A

Note: Multiple choice questions. All questions are compulsory (10x1=10)

Q.1 Which of the following communication transmission media is open space or free space? (CO1)

a) Line b) Radio

c) Transmitter d) None of the above

Q.2 Amplitude of modulated wave varies with_____ in A.M. (CO1)

a) Wavelength b) Amplitude

c) Time d) Energy

Q.3 What is must include in a complete communication system? (CO2)

a) A transmitter and receiver

b) A transmitter, a receiver, and a channel

c) A multiplexer, a de-multiplexer, and a channel

d) A transmitter, a receiver, and a spectrum analyzer

Q.4 Which of the following is an indirect way of generating FM? (CO2)
a) Armstrong modulator
b) Varactor diode modulator
c) Reactance FET modulator
d) Reactance bipolar transistor

Q.5 For a low level AM system, the amplifiers modulated stage must be (CO1)
a) Linear devices b) Harmonic devices
c) Class C amplifiers d) Non-linear devices

Q.6 In a FM receiver, amplitude limiter (CO2)
a) Amplifiers low frequency signals
b) Reduces the amplitude of signals
c) Eliminates any change in amplitude of received FM signals
d) None of the above

Q.7 Which of the following option is correct about the frequency range of 3MHz to 30 MHz? (CO3)
a) High frequency b) Medium frequency
c) Low frequency d) None of these

Q.8 Which of the following is the frequency of ground waves? (CO4)
a) More than 3MHz b) Less than 3 MHz
c) Less than 2MHz d) None of the above

Q.9 In Modulation, "carrier" is (CO1)
a) Resultant wave
b) Speech voltage to be transmitted
c) Voltage with constant frequency, phase or amplitude
d) Voltage for which frequency, phase or amplitude is varied

Q.10 Skip distance depends on time of day and angle of incidence (CO4)
a) True b) False

SECTION-B

Note: Objective Completion type questions. All questions are compulsory. (10x1=10)

Q.11 What is S/N ratio? (CO2)

Q.12 Write the meaning of Perigee. (CO5)

Q.13 Define fidelity. (CO2)

Q.14 Write the range of VHF. (CO3)

Q.15 Define radiation resistance. (CO3)

Q.16 Write the full form of VSAT. (CO5)

Q.17 Write the frequency range of ground wave. (CO4)

Q.18 Define Gain. (CO3)

Q.19 Define radiation pattern. (CO3)

Q.20 Define sensitivity . (CO2)

SECTION-C

Note: Short answer type questions. Attempt any twelve questions out of fifteen questions. (12x5=60)

Q.21 What are the different modes of ratio wave propagation? (CO3)

Q.22 Explain the selectivity of the radio receiver. (CO2)

Q.23 Explain De-emphasis in FM. (CO3)

Q.24 Discuss in detail multiple hop sky wave propagation. (CO4)

Q.26 Draw the VI characteristics of SCR. (CO2)

Q.27 Explain the features of power transistors. (CO2)

Q.28 Illustrate the series operation of SCRs with the help of diagram. (CO2)

Q.29 Construct the circuit of UJT as relaxation oscillator. Explain the circuit with the help of waveforms. (CO3)

Q.30 Explain Basic idea about selection of Heat sink. (CO1)

Q.31 Describe any two types of choppers. (CO7)

Q.32 Draw the circuit diagram and V-I characteristic of UJT. Explain it. (CO3)

Q.33 Draw the circuit for single phase bridge type fully controlled rectifier with R-L load. Explain it with input and output waveforms. (CO4)

Q.34 Explain the applications of cycloconverter. (CO7)

Q.35 Explain the principle of step-down chopper. (CO7)

SECTION-D

Note: Long answer type questions. Attempt any two questions out of three questions. (2x10=20)

Q.36 Classify the choppers. Also explain different types of choppers in detail. (CO7)

Q.37 Draw the block diagram of HVDC transmission. Explain each block in detail. (CO5)

Q.38 Explain three modes of operation of SCR with their neat and clean circuit diagrams and V-I characteristics. (CO2)

No. of Printed Pages : 4

Roll No. 181043/171043

4th Sem./ Electronics and Communication

Subject : Power Electronics

Time : 3 Hrs. M.M. : 100

SECTION-A

Note: Multiple choice questions. All questions are compulsory (10x1=10)

Q.1 The thyristor turn-off requires that the anode current (CO2)

a) Falls below the holding current
b) falls below the latching current
c) rices above the holding current
d) rises above the latching current

Q.2 Which terminal does not belong to the SCR? (CO1)

a) Anode b) Gate
c) Base d) Cathode

Q.3 An SCR is a (CO1)

a) four-layer, four junction device
b) four layer, three junction device
c) four layer, two junction device
d) three layer, single junction device

Q.4 Choppers converter (CO7)

a) AC to DC b) DC to AC
c) DC to DC d) AC to AC

Q.5 Application of cycloconverters include (CO7)

a) speed control of ac drives
b) induction heating
c) Static V A r compensation
d) all of the mentioned

Q.6 SMPS is used for (CO6)

a) obtaining controlled ac power supply
b) obtaining controlled dc power supply
c) storage of dc power
d) switch from one source to another

Q.7 HVDC transmission lines are _____as compared to HVAC lines (CO5)

a) difficult to erect
b) more expensive for long distances
c) more expensive for short distances
d) less expensive for short distances

Q.8 The minimum value of anode current below which it must fall to completely turn-off the device is called as the (CO2)

a) holding current value
b) latching current value
c) switching current value
d) peak anode current value

Q.9 Higher the magnitude of the gate pulse (CO2)

a) lesser is the time required to inject the charges
b) greater is the time required to inject the charges
c) greater is the value of anode current
d) lesser is the value of anode current

Q.10 A TRIAC is a _____Switch (CO5)

a) Bidirectional b) Unidirectional
c) Mechanical d) None of the above

SECTION-B

Note: Objective Completion type questions. All questions are compulsory. (10x1=10)

Q.11 Draw the Symbol of TRIAC? (CO2)

Q.12 What is dv / dt triggering? (CO2)

Q.13 Expand MOSFET. (CO2)

Q.14 What is the symbol of UJT? (CO3)

Q.15 Write any two applications of chopper. (CO7)

Q.16 Phase controlled rectifier . (CO4)

Q.17 Rectifier converts _____supply into___supply. (CO4)

Q.18 Commutation is the process to turn_____ the (CO2)

Q.19 SCR is unidirectional switch . (True/False) (CO1)

Q.20 List two merits of HVDC system. (CO5)

SECTION-C

Note: Short answer type questions. Attempt any twelve questions out of fifteen questions. (12x5=60)

Q.21 Explain the working of full wave-controlled rectifier. (CO4)

Q.22 Explain the working principle of parallel invertor. (CO7)

Q.23 Explain the working operation of smart UPS. (CO6)

Q.24 Compare the features of type A and C type choppers. (CO7)

Q.25 Explain the working of illuminator control circuit using thyristor. (CO5)

Q.25 Describe pulse transducer? (CO3)
Q.26 How the Clinical Laboratory equipments differ from Diagnostic equipments? (CO6)
Q.27 Write a short note on safety standards? (CO7)
Q.28 Explain any Clinical Laboratory equipments? (CO1)
Q.29 Write short note on Blood pressure measurement? (CO5)
Q.30 Describe the need of defibtillator and cardiac pace maker? (CO5)
Q.31 Define Photoelectric Transducer? (CO3)
Q.32 Define ECG machine with block Diagram? (CO4)
Q.33 Explain the ultrasonic imaging system? (CO6)
Q.34 Describe Photoelectric transducer? (CO2)
Q.35 Define the following : (CO2)
a) Bio-electric signal
b) Electrode tissue interface

SECTION-D

Note: Long answer type questions. Attempt any two questions out of three questions. (2x10=20)

Q.36 Draw the block Diagram of ECG Machine. Explain the working of ECG Machine? (CO4)
Q.37 Describe the classification of bio transducers. Explain the pulse sensor? (CO3)
Q.38 Write short note on :
a) Biological amplifiers. (CO2)
b) Heart rate Measurement . (CO5)

No. of Printed Pages : 4
Roll No. 181045/171045

4th Sem./ ECE

Subject : Medical Electronics

Time : 3 Hrs. M.M. : 100

SECTION-A

Note: Multiple choice questions. All questions are compulsory (10x1=10)

Q.1 In medical recorders, the signal of interest is of the order of_____. (CO4)
a) nanovolts b) microvolts
c) megavolts d) volts

Q.2 The amplitude of EMG signals depend upon which of the following factor? (CO4)
a) Respiration
b) Position of electrode
c) Blood Resistivity
d) Ventricular Volume

Q.3 What is necessary for providing a common reference for measurement? (CO2)
a) active electrode b) ground electrode
c) tape recorder d) oscilloscope

Q.4 EMG instrument is useful for making study of_____. (CO4)
a) cardiovascular function
b) neuromuscular function
c) nervous function
d) Immune function

Q.5 The foetus heart rate is approximately _____ time/s of normal adult foetal heart rate. (CO5)

a) one b) two
c) three d) four

Q.6 Crystal microphone is used for picking_____ signals. (CO2)

a) cardiac b) brain
c) phono d) muscles

Q.7 _____records the electrical activity of heart. (CO4)

a) ECG (Electrocardiography)
b) PCG(Phonocardiograph)
c) VCG (vectorcardiograph)
d) EEG

Q.8 Which of the following material used in limb surface electrode? (CO2)

a) german silver b) Platinum
c) gold d) copper

Q.9 Which of the following component converts biochemical events into measurable signals? (CO3)

a) amplifier b) opamp
c) rectifier d) transducer

Q.10 What is the total operating range of the transducer is called? (CO3)

a) offset b) threshold
c) span d) drift

SECTION-B

Note: Objective Completion type questions. All questions are compulsory. (10x1=10)

Q.11 Diastolic pressure is the minimum pressure in the arteries. (T/F) (CO5)

Q.12 The frequency of muscles activity is very high . (T/F) (CO4)

Q.13 Define Bio sensors . (CO3)

Q.14 Define classification of Medical equipments. (CO1)

Q.15 Name any two type of Pressure transducer. (CO3)

Q.16 What is leakage current ? (CO7)

Q.17 Name any two life supporting systems. (CO5)

Q.18 CT Scan is used for the purpose of which Diagnosis? (CO3)

Q.19 Define Diagnosis? (CO7)

Q.20 What is Micro current shock? (CO6)

SECTION-C

Note: Short answer type questions. Attempt any twelve questions out of fifteen questions. (12x5=60)

Q.21 How blood pressure is measured? Explain in brief. (CO3)

Q.22 What do you understand by bio-sensor and smart sensor? Explain. (CO3)

Q.23 What are the various safety aspects of medical instruments? (CO7)

Q.24 Differentiate between ECG, EEG and EMG. (CO4)

Q.24 What are repeaters? What is its need?

Q.25 Write a note on super netting

Q.26 Explain about Peer to peer network.

Q.27 Write a note on Ethical Hacking

Q.28 Explain the various types of cables.

Q.29 Explain RAID management

Q.30 Write a note on Physical and Logical Addressing.

Q.31 What do you mean by IP Address. Explain its types.

Q.32 Explain various network connectivity devices in brief.

Q.33 Write a note on WiMax.

Q.34 Explain wireless MAN

Q.35 Explain IPV6

SECTION-D

Note: Long answer type questions. Attempt any two questions out of three questions. 2x10=20

Q.36 Explain various types of Network topologist?

Q.37 Explain in detail various layers of OSI model.

Q.38 Explain various classes of IP addressing and loop back concept,

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Roll No. ……

181051

5th SEM / Electronics & Communication

Subject : Computer Networks

Time : 3 Hrs. M.M. : 100

SECTION-A

Note: Multiple choice questions. All questions are compulsory (10x1=10)

Q.1 OSI stands for_____?

a) open system interconnection

b) operating system interface

c) optical service implementation

d) open service Internet

Q.2 The number of layers in TCP/IP reference model is_____

a) 5 b) 4

c) 7 d) 3

Q.3 Which layer lies between the session layer and application layer?

a) Application Layer b) Network layer

c) Session Layer d) Presentation layer

Q.4 Which computer network covers the area of less than 5 Kms?

a) MAN b) WAN

c) LAN d) WiMAx

Q.5 Wi-Fi is the acronym for

a) Wireless fidelity b) Wireless LAN

c) Wireless MAN d) None

Q.6 transmission data rate is decided by _____.

a) Network layer b) Physical Layer

c) Session Layer d) Presentation layer

Q.7 The physical layer is concerned with_____

a) Representation of bits

b) Routing

c) Error Control d) Synchronization

Q.8 An IP address is _____ Bits:

a) 24 b) 32

c) 48 d) 64

Q.9 What is full form of WLAN.

a) Wide Local Area Network.

b) Wireless Local Area Network

c) Wireless land Area Network

d) Wide Local Area Node

Q.10 Default network mask for Class B is:

a) 255.255.0.0 b) 255.0.0.0

c) 255.255.255.0 d) 255.255.255.255

SECTION-B

Note: Objective type questions. All questions are compulsory. 10x1 = 10

Q.11 MAN stands for_____?

Q.12 Wimax stands for_____

Q.13 NIC stands for_____?

Q.14 Class B address range is_____

Q.15 WLAN stands for_____

Q.16 Computer Network is_____

Q.17 CDMA stands for_____

Q.18 VOIP is _____.

Q.19 Two types of WAN are_____and_____

Q.20 Switches operates on the _____layer of OSI reference model.

SECTION-C

Note: Short answer type questions. Attempt any twelve questions out of fifteen questions. 12x5 = 60

Q.21 Explain how router is configured?

Q.22 Explain the use of RJ 45?

Q.23 Explain net to phone telephony?

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Roll No. ..... 181052/171052/121052 /031051

5th Sem./ Electronics & Communication
Subject : Audio Video Systems / Consumer Eltx.

Time : 3 Hrs. M.M. : 100

SECTION-A

Note: Multiple choice questions. All questions are compulsory (10x1=10)

Q.1 Telephones use_____type of microphone. (CO1)
a) Moving oil b) Carbon
c) Crystal d) Ribbon

Q.2 Woofers are used for (CO1)
a) Low Frequencies
b) High Frequencies
c) Medium Frequencies
d) Very High Frequencies

Q.3 The storage characteristic of compact disc is approximately (CO1)
a) 500 MB b) 600 MB
c) 700 MB d) 1000 MB

Q.4 Digital Audio is (CO2)
a) Steps in time
b) Continuous in time
c) Discrete in time
d) both steps & Discrete

Q.5 The maximum value of dBfs can be (CO2)
a) 0 b) 1
c) Between 0 & 1 d) infinity

Q.6 The Horizontal Scanning Frequency in 625 line system is (CO3)
a) 15225 Hz b) 15625 Hz
c) 15750 Hz d) 15825 Hz

Q.7 Red + Green = (CO3)
a) White b) Yellow
c) Magenta d) Cyan

Q.8 Value of subcarrier frequency in PAL system is (CO3)
a) 3.58 MHz b) 4.1 MHz
c) 4.43 MHz d) 4.73 MHz

Q.9 For HDTV, the compression format used is (CO4)
a) MPEG-1 b) MPEG-2
c) MPEG-3 d) MPEG-4

Q.10 In LCDs, the polarization angle is (CO6)
a) 60 DEGREES b) 90 DEGREES
c) 120 DEGREES d) 180 DEGREES

SECTION-B

Note: Objective Completion type questions. All questions are compulsory. (10x1=10)

Q.11 Draw the radiation pattern of horn loudspeaker. (CO1)

Q.12 What is frequency range of tweeters? (CO1)

Q.13 Define aspect ratio (CO3)

Q.14 Write any two advantages of digital audio.(CO2)

Q.15 Define Saturation of colours. (CO3)

Q.16 Define quantization. (CO4)

Q.17 Expand CCTV, give its one application. (CO5)

Q.18 Write any two advantages of LEDs. (CO6)

Q.19 Define compression of data. (CO4)

Q.20 Expand the term VSB in T.V. (CO3)

SECTION-C

Note: Short answer type questions. Attempt any twelve questions out of fifteen questions. (12x5=60)

Q.21 Explain the basic principle and working of moving coil microphone. (CO1)

Q.22 What is need of crossover networks, explain its working. (CO1)

Q.23 Explain the concept of persistence of vision. (CO3)

Q.24 Which type of mixing is used in colour T.V.& why? (CO3)

Q.25 How audio is considered as data? Explain . (CO2)

Q.26 Explain why VSB transmission is used in T.V? (CO3)

Q.27 Briefly compare NTSC & PAL system. (CO3)

Q.28 Define lossless compression, give examples. (CO4)

Q.29 Explain in brief MPEG-1 method of compression. (CO4)

Q.30 With the help of diagram , explain DTH. (CO5)

Q.31 Show how CATV system works? (CO5)

Q.32 Explain basic principle of LCD display. (CO6)

Q.33 Differentiate between reflective & back-lit LCDs. (CO6)

Q.34 Write in detail the main components of optical recording.

Q.35 What is need of synchronizing pulses in T.V. (CO3)

SECTION-D

Note: Long answer type questions. Attempt any two questions out of three questions. (2x10=20)

Q.36 Draw and explain all parts of composite video signal. (CO3)

Q.37 a) Explain the concept of time compression. (5) (CO2)

b) Write in detail about digital satellite television. (5) (CO5)

Q.38 Explain different steps in JPEG image compression. (CO4)

Q.33 What is modem what are the functions of modem?

Q.34 Explain various mode of modem operations.

Q.35 Explain STS switch way block diagram.

SECTION-D

Note: Long answer type questions. Attempt any two questions out of three questions. 2x10=20

Q.36 Explain the basic block diagram of digital communication system and give its advantage and disadvantage.

Q.37 Write short note on

a) Modem Interconnections

b) FSK.

Q.38 Explain the basic block diagram of digital and data communication system.

No. of Printed Pages : 4

Roll No. 181053/171053

5th SEM /ELTX

Subject : Digital Communication

Time : 3 Hrs. M.M. : 100

SECTION-A

Note: Multiple choice questions. All questions are compulsory (10x1=10)

Q.1 1 Byte_____ Bits

a) 4 b) 8

c) 16 d) 32

Q.2 in sampling theorem Fs_____ 2Fm

a) > b) <

c) = d) a and c

Q.3 Digital communication is_____ to environmental changes?

a) Less sensitive b) More sensitive

c) Does not depend

d) None of the mentioned

Q.4 Advantages of digital communication are

a) Easy multiplexing b) Easy processing

c) Reliable d) All of mentioned

Q.5 Analog to digital conversion includes

a) Sampling b) Quantization

c) Sampling & Quantization

d) None of the mentioned

Q.6 The process of converting the analog sample into discrete form is called

a) Modulation b) Multiplexing

c) Quantization d) Sampling

Q.7 The modulation techniques used to convert analog signal into digital signal are

a) Pulse code modulation

b) Delta modulation

c) Adaptive delta modulation

d) All of the above

Q.8 In digital transmission, the modulation technique that requires minimum bandwidth is

a) Delta modulation b) PCM

c) DPCM d) PAM

Q.9 The maximum bandwidth is occupied by

a) ASK b) BPSK

c) FSK d) None of the above

Q.10 QPSK is a modulation scheme where each symbol consists of

a) 4 bits b) 2 bits

c) 1 bits

d) M number of bits, depending upon the requirement

SECTION-B

Note: Objective type questions. All questions are compulsory. 10x1 = 10

Q.11 Digital communication

Q.12 Quantization

Q.13 Cross Talk

Q.14 Equalizer

Q.15 Transmission Speed Expand the Terms

Q.16 QPSK

Q.17 ICW

Q.18 TST

Q.19 USART

Q.20 DPCM

SECTION-C

Note: Short answer type questions. Attempt any twelve questions out of fifteen questions. 12x5 = 60

Q.21 Explain serial and parallel transmission.

Q.22 Differentiate between digital and analog communication.

Q.23 Explain different methods used to generate PAM.

Q.24 Explain the error of Quantization.

Q.25 Describe the principle of DPCM.

Q.26 List the advantages and disadvantages of PCM.

Q.27 Explain the concept of Adaptive Delta Modulation.

Q.28 Explain frequency hopping spread spectrum techniques.

Q.29 With the help of flow diagram explain working principle of ASK.

Q.30 Explain with block diagram concept of PSK.

Q.31 Write short note on equalizers.

Q.32 Write short note on bandwidth requirement of data transmission circuits.

No. of Printed Pages : 4
Roll No. .....

181054/171054/
121054/031054B

5th SEM /Electronics Engg.
Subject : Optical Fiber communication

Time : 3 Hrs. M.M. : 100

SECTION-A

Note: Multiple choice questions. All questions are compulsory (10x1=10)

Q.1 Most commonly used Photo detector is_____

a) Photocell b) APD
c) LED d) None

Q.2 _____ is responsible for the blue color of the sky.

a) Dispersion b) Reflection
c) Rayleigh Scattering d) None

Q.3 Single Mode fibers support only _____ mode of propagation.

a) One b) Two
c) Three d) Four

Q.4 The core is the_____ part of fiber, which guides light

a) Inner b) Outer
c) Medium d) None

Q.5 The refractive index of core is _____ than cladding

a) Higher b) Equals
c) Lesser d) None

Q.6 Light propagates mainly along the_____ of fiber.

a) Cladding b) Buffer
c) Core d) None

Q.7 Principle of LASER is

a) Spontaneous emission
b) Simulated Emission
c) Induced emission
d) Both b & c

Q.8 What are twobasic types of fiber optic connectors?

a) V-groove and ribbon
b) Three rod and biconical
c) Ceramic and stainless steel
d) Butt- jointed and expanded-beam

Q.9 What is the spectral width of a standard LED?

a) 20 to 40 nm b) 30 to 50nm
c) 500 to 800 nm d) 200 to 500nm

Q.10 A PIN photodiode usally operates in what way

a) Applied reverse voltage
b) Applied forward voltage
c) No bias voltage
d) None

SECTION-B

Note: Objective type questions. All questions are compulsory. (10x1=10)

Q.11 ILD stands for _____.

Q.12 APD stands for _____.

Q.13 OTDR stands for _____.

Q.14 Optical frequency range is _____

Q.15 Define Bit rate.

Q.16 Give one advantage of Optical Fiber communication.

Q.17 SOA stands for_____.

Q.18 Core of optical fiber is made of _____.

Q.19 Define Optical amplifier.

Q.20 Refractive index of

SECTION-C

Note: Short answer type questions. Attempt any twelve questions out of fifteen questions. (12x5=60)

Q.21 Explain the applications of optical fiber communication

Q.22 Draw and explain basis structure of Optical fiber.

Q.23 Explain the terms: Critical Angle and Reflection.

Q.24 Explain the characteristics of LED used in optical communication.

Q.25 Explain in brief Dispersion and its types.

Q.26 Explain the working of APD diode.

Q.27 Explain the basic Optical communication system.

Q.28 Explain the principle of operation of EDFA.

Q.29 Explain the construction of multimode and mono mode fibers.

Q.30 Compare SOA and Raman Amplifiers.

Q.31 Explain optical frequency range.

Q.32 Explain Electromagnetic Spectrum used in optical fibre communication

Q.33 Explain the optical splicing techniques in brief.

Q.34 Briefly explain types of Absorption losses.

Q.35 Explain characteristics of photodetectors used in Optical Communication Link.

SECTION-D

Note: Long answer type questions. Attempt any two questions out of three questions. (2x10=20)

Q.36 Explain PIN diode in detail with suitable diagram

Q.37 Explain constructional detail of various Optical fibers in detail.

Q.38 Explain different types of losses in Optical fiber communication and testing of losses using OTDR

Q.29 Define SFR. Name some SFR's. (CO 1)

Q.30 What is PSW? Explain PSW of 8051 Micro controller. (CO 1)

Q.31 Explain the interfacing of the Keyboard with micro controller. (CO 3)

Q.32 What is stack? Explain the function of POP instruction. (CO 1)

Q.33 What are data transfer instruction? Give its two examples. (CO 2)

Q.34 What do you understand from Assembly Language? (CO 2)

Q.35 What is the use of PIC micro controller? (CO 1)

SECTION-D

Note: Long answer type questions. Attempt any two questions out of three questions. (2x10=20)

Q.36 Explain the seven-segment display interfacing with 8051 micro controllers. (CO 3)

Q.37 What are different types of interrupts in 8051 Micro controller? (CO 2)

Q.38 Draw the Block diagram of 8051 Micro controller and explain each block in detail. (CO 1)

No. of Printed Pages : 4

Roll No. 181055/171055/125952

5th SEM / Electronics and Communication

Subject : Microcontrollers Microtroller & Applications

Time : 3 Hrs. M.M. : 100

SECTION-A

Note: Multiple choice questions. All questions are compulsory (10x1=10)

Q.1 The internal RAM memory of the 8051 is: (CO 2)

a) 32 bytes b) 64 bytes

c) 128 bytes d) 256 bytes

Q.2 The8051 has _____ 16-bit counter/timer. (CO 1)

a) 1 b) 2

c) 3 d) 4

Q.3 8051 micro controllers are manufactured by which of the following companies? (CO 1)

a) Atmel b) Philips

c) Intel d) All of the mentioned

Q.4 Which register usually store the output generated by ALU in several arithmetic and logical operations? (CO 2)

a) Accumulator

b) Special Function Register

c) Timer Register

d) Stack Pointer

Q.5 Which operations are performed by stack pointer during its incremental phase? (CO 2)

a) Push b) Pop

c) Return d) All of the above

Q.6 Which addressing mode is used in pushing or popping any element on or from the stack? (CO 1)

a) immediate b) direct

c) indirect d) register

Q.7 Which architecture is followed by general purpose microprocessors? (CO 1)

a) Harvard architecture

b) Von Neumann architecture

c) None of the mentioned

d) All of the mentioned

Q.8 What is the function of the TMOD register? (CO 2)

a) TMOD register is used to set various operation modes of timer/counter

b) TMOD register is used to load the count of the timer

c) Is the destination or the final register where the result is obtained after the operation of the timer

d) Is used to interrupt the timer

Q.9 To detect that in which column, the key is placed? (CO 3)

a) we can mask the bits and then check it

b) we can rotate the bits and then check that particular bit which is set or reset (according to the particular condition)

c) none of the mentioned

d) all of the mentioned

Q.10 How many bytes of bit addressable memory is present in 8051 based micro controllers? (CO 2)

a) 8 bytes b) 32 bytes

c) 16 bytes d) 128 bytes

SECTION-B

Note: Objective type questions. All questions are compulsory. (10x1 = 10)

Q.11 Draw pattern of seven segment display. (CO 3)

Q.12 LCD stands for_____. (CO 3)

Q.13 What Is the Width of Address Bus? (CO 1)

Q.14 What is machine code? (CO 2)

Q.15 What is full form of PIC? (CO 1)

Q.16 For long distance, _____ (Serial/parallel) data communication is used. (CO 2)

Q.17 Define Stack Pointer. (CO 1)

Q.18 What is the function of ALE? (CO 1)

Q.19 8051 Microcontroller has 32 pins. (True/False) (CO 1)

Q.20 What is the use of timer in 8051? (CO 2)

SECTION-C

Note: Short answer type questions. Attempt any twelve questions out of fifteen questions. (12x5 = 60)

Q.21 What is assembler directive? Explain ORG (Origin) Directive (CO 2)

Q.22 Explain I/O port structure of 8051. (CO 1)

Q.23 List some features of 8051 Micro controller. (CO 1)

Q.24 Differentiate between Microprocessor and Micro controller. (CO 1)

Q.25 Write a short note on "Debugger operations". (CO 2)

Q.26 What is the function of Address Bus, Data Bus and Control Bus in Microprocessor 8051? (CO 1)

Q.27 Write a short note on "Digital to Analog (DAC) interface". (CO 3)

Q.28 What is von Neumann architecture? (CO 1)

Q.26 Define group velocity and phase velocity.(CO3)

Q.27 Write short note on "Propagation of waves in a waveguide". (CO3)

Q.28 What are different types of waveguide tees? (CO4)

Q.29 Write a short note on "Horn Antenna". (CO4)

Q.30 What is directional coupler? Explain its working. (CO4)

Q.31 Write a short note on "Troposcatter communication". (CO5)

Q.32 Write different applications of radar. (CO6)

Q.33 Explain the concept of unambiguous range. (CO6)

Q.34 Write a short note on "Radar display-PPI". (CO6)

Q.35 Draw block diagram of MTI radar. (CO6)

SECTION-D

Note: Long answer type questions. Attempt any two questions out of three questions. 2x10=20

Q.36 Explain construction and principle of multi-cavity magnetron. (CO2)

Q.37 Explain working principle of microwave communication link with help of suitable diagram. (CO5)

Q.38 Draw block diagram and explain operating principle of CW doppler radar. (CO6)

No. of Printed Pages : 4

Roll No. 181061/171061

6th Sem./ ECE

Subject : Microwave & Radar Engg

Time : 3 Hrs. M.M. : 100

SECTION-A

Note: Multiple choice questions. All questions are compulsory (10x1=10)

Q.1 Range of Microwave's wavelength (CO1)

a) 30 Km - 1 m b) 30 m - 1 cm

c) 30 cm - 1 mm d) 30 nm - 1 nm

Q.2 Range of "S" band (CO1)

a) 2 Ghz - 4 GHz b) 4 Ghz - 8 Ghz

c) 8 Ghz - 12 GHz d) 12 Ghz - 18 Ghz

Q.3 Which frequency band is best suited for FM radio & TV broadcasting (CO1)

a) HF b) VHF

c) UHF d) X Band

Q.4 Reflex Klystron is used as (CO2)

a) Low power microwave oscillator

b) Low power microwave amplifier

c) High power microwave amplifier

d) None of the above

Q.5 Which of the following exhibits negative resistance (CO2)

a) TWT b) Impatt diode

c) Gunn diode d) Reflex klystron

Q.6 The dominant mode in a rectangular waveguide is (CO3)

a) TE_{11} b) Te_{10}

c) TM_{01} d) Tm_{11}

Q.7 For a rectangular waveguide, the cut off frequency for Te10 mode is always (CO3)

a) Higher than that for TE_{11} mode.

b) Equal to that for TE_{11} mode

c) lower than that for TE_{11} mode.

d) 100MHz

Q.8 Which of the following can be used for coupling the waveguides of different dimensions (CO4)

a) Twist b) Circulator

c) Isolater d) Taper

Q.9 E layer is at a height of (CO5)

a) 50-100 km b) 100-140 km

c) 140-250 km d) 250-400 km

Q.10 The limitation of the pulse MTI radar that does not occur with the CW radar (CO6)

a) in blind speed

b) is delay lines

c) requires more operating power

d) requires complex circuitry

SECTION-B

Note: Objective Completion type questions. All questions are compulsory. 10x1=10

Q.11 Define wavelength. (CO1)

Q.12 What is the effect of transit time? (CO2)

Q.13 Write full form of TEM. (CO3)

Q.14 Draw any two shapes of waveguide. (CO3)

Q.15 Define guide wavelength. (CO3)

Q.16 Why isolators are called uniline ? (CO4)

Q.17 What is Tee junction? (CO4)

Q.18 Define maximum usable frequency. (CO5)

Q.19 Write radar range equation. (CO6)

Q.20 Write full form of FMCW. (CO6)

SECTION-C

Note: Short answer type questions. Attempt any twelve questions out of fifteen questions. 12x5=60

Q.21 What are the different applications of microwave? (CO1)

Q.22 What are different drawbacks of klystron amplifiers? (CO2)

Q.23 Write a short note on “Impatt diode”. (CO2)

Q.24 Write any two applications of Magnetron. Why magnetron is called as cross field device? (CO2)

Q.25 Why TEM mode is not possible in a waveguide? (CO3)

Q.24 How I/O devices are classified for embedded system? (CO2)

Q.25 Explain the term Emulator. (CO1)

Q.26 What is the Real-time operating system?(CO2)

Q.27 What are real-time embedded systems?(CO2)

Q.28 What are the Programming concepts of microcontrollers? (CO3)

Q.29 What are the functional requirements of embedded system? (CO2)

Q.30 List out various uses of timers in embedded system? (CO1)

Q.31 Discuss about software Timer. (CO3)

Q.32 List some applications of embedded systems. (CO1)

Q.33 List the factors affecting embedded systems. (CO1)

Q.34 Define the term Compiler. (CO2)

Q.35 Write applications of PIC microcontroller (CO3)

SECTION-D

Note: Long answer type questions. Attempt any two questions out of three questions. (2x10=20)

Q.36 Compare 8051 microcontroller with PIC microcontroller . (CO3)

Q.37 Draw the block diagram of PIC microcontroller and explain each block in detail. (CO3)

Q.38 Draw and explain the functional structure of the embedded system. (CO2)

No. of Printed Pages : 4

Roll No. .....

181062 C

6th Sem./ Electronics and Communication

Subject : Embedded Systems

Time : 3 Hrs. M.M. : 100

SECTION-A

Note: Multiple choice questions. All questions are compulsory (10x1=10)

Q.1 When AVR wakes up, then the value of PC becomes? (CO3)

a) 00H b) 000H

c) 0000H d) 00000H

Q.2 Which of the following is an example for not a wireless communication interface? (CO1)

a) RS-232C b) Wi-Fi

c) Bluetooth d) None

Q.3 What does ISR stand for? (CO1)

a) interrupt standard routine

b) interrupt service routine

c) interrupt software routine

d) interrupt synchronous routine

Q.4 Embedded systems are: (CO1)

a) General purpose b) Special purpose

c) Both a and b d) None

Q.5 Which of the following is an (are) example (s) of embedded system for data communication?

a) USB mass storage device (CO2)
b) Network router
c) Digital camera
d) None

Q.6 Which of the following is not true about embedded systems. (CO2)

a) Built around specialized hardware
b) Always contain an operating system
c) Execution behviour may be deterministic
d) None

Q.7 How many memory cells are present in 1 Kb RAM? (CO1)

a) 1024 b) 8192
c) 512 d) 2048

Q.8 The time taken to respond to an interrupt is known as (CO2)

a) interrupt delay b) interrupt time
c) interrupt latency d) interrupt function

Q.9 Which part of the software performs tasks in response to the interrupts? (CO1)

a) background
b) foreground
c) lateral ground
d) both foreground and background

Q.10 Which of the following enables the user to utlise the system efficiently ? (CO1)

a) Kernel b) Operating system
c) software d) hardware

SECTION-B

Note: Objective type questions. All questions are compulsory. (10x1=10)

Q.11 Define Real time operating system. (CO1)
Q.12 What is cross compiler? (CO3)
Q.13 What is pipelining? (CO1)
Q.14 Define term Reliability. (CO2)
Q.15 What is compiler? (CO2)
Q.16 Give one use of Embedded Systems ? (CO1)
Q.17 What is simulator? (CO1)
Q.18 What is an Embedded Systems? (CO1)
Q.19 What do you mean by interrupt latency?(CO2)
Q.20 What is the difference between microprocessor and microcontroller? (CO2)

SECTION-C

Note: Short answer type questions. Attempt any twelve questions out of fifteen questions. (12x5=60)

Q.21 Explain the important considerations when selecting a processor. (CO1)
Q.22 Define the term Memory Management. (CO1)
Q.23 Write a short note on Reliability of embedded systems. (CO1)

Q.22 Write a short note on Ac drives? (CO3)

Q.23 Explain PLC scanning. (CO3)

Q.24 What do you mean by SCADA? What are its applications? (CO6)

Q.25 Write advantages of PLC over relays. (CO1)

Q.26 Write short notes on PLC operations . (CO2)

Q.27 Explain any two math instructions of PLC.(CO2)

Q.28 Discuss different types of sequencers. (CO4)

Q.29 Write DCS applications in power plants. (CO5)

Q.30 Show working of doorbell operation using PLC. (CO5)

Q.31 What is a retentive timer? (CO4)

Q.32 Explain MOV instruction? (CO3)

Q.33 Write a short note on Automation. (CO7)

Q.34 Explain briefly concepts of DCS. (CO6)

Q.35 Explain briefly the remote terminal unit. (CO6)

SECTION-D

Note: Long answer type questions. Attempt any two questions out of three questions. (2x10=20)

Q.36 Draw block diagram of PLC and explain function of each block in detail. (CO2)

Q.37 Explain the input output hardware interfacing with DCS. (CO6)

Q.38 Give comparison between PLC, SCADA, and DCS. (CO3)

No. of Printed Pages : 4

Roll No. 181062B/171062B

6th Sem./ ECE

Subject : Industrial Automation

Time : 3 Hrs. M.M. : 100

SECTION-A

Note: Multiple choice questions. All questions are compulsory (10x1=10)

Q.1 External access is used to permit (CO7)

a) Peripherals b) Power supply

c) ALE d) Memory interfacing

Q.2 Which of the following is not a PLC manufacturer (CO1)

a) Siemens b) Mitsubishi

c) Havells d) ABB

Q.3 PLCs having less than _____input and output are called small PLC (CO6)

a) 50 b) 100

c) 150 d) 200

Q.4 Example of PLC input device is (CO7)

a) Motor b) Light lamp

c) Valve d) Sensor

Q.5 An OR function implemented in ladder logic uses: (CO3)

a) Normally closed contacts in series
b) Normally open contacts in series
c) A single normally - closed contacts
d) Normally -open contacts in parallel

Q.6 What is the full form of SCADA? (CO7)

a) Supervisory Control and Document Acquisition
b) Supervisory Control and Data Acquisition
c) Supervisory Column and Data Assessment
d) Supervisory Column and Data Assessment

Q.7 The difference between online and offline PLC programming is..... (CO5)

a) Whether the PLC is running or stopped
b) Whether the programming pc has internet connectivity
c) The type of programming cable used
d) Where the edited program resides

Q.8 An example of discrete (digital) control is:(CO5)

a) Varying the volume of a music system
b) Turning a lamp ON or OFF
c) Varying the brightness of a lamp
d) Controlling the speed of a fan

Q.9 Which of the following is the heart of a SCADA system? (CO4)

a) PLC b) HMI
c) Alarm task d) I/O task

Q.10 _____of PLCs can be done in very little time (CO3)

a) Programming b) Installation
c) Commissioning d) All of the above

SECTION-B

Note: Objective Completion type questions. All questions are compulsory. (10x1=10)

Q.11 Write two limitations of relays? (CO1)
Q.12 Write two advantages of AC drives. (CO6)
Q.13 PLC stands for_____. (CO1)
Q.14 Expand HMI. (CO1)
Q.15 There are _____types of timers in PLC. (CO3)
Q.16 What is a retentive timer? (CO3)
Q.17 What is the scan time of a PLC? (CO1)
Q.18 The symbol of XIC? (CO2)
Q.19 What is MOV instruction? (CO3)
Q.20 Expand SCADA. (CO6)

SECTION-C

Note: Short answer type questions. Attempt any twelve questions out of fifteen questions. (12x5=60)

Q.21 What are the applications of PLC in industry? (CO5)

No. of Printed Pages : 4

Roll No. 181063/171063/121063/31063

6th Sem./ ECE

Subject : Wireless & Mobile Communication / Digital & Data Communication

Time : 3 Hrs. M.M. : 100

SECTION-A

Note: Multiple choice questions. All questions are compulsory (10x1=10)

Q.1 Very high frequencies (VHF) are in range of (CO1)

a) 30 Hz - 300 Hz b) 30 kHz - 300 kHz

c) 30 MHZ - 300 MHz d) 30 Ghz - 300 Ghz

Q.2 1 MHZ equals to (CO1)

a) 10^3 Hz b) 10^6 Hz

c) 10^9 Hz d) 10^{12} Hz

Q.3 Which of the following is NOT an example of wireless communication? (CO1)

a) Infrared device b) Smart Phone

c) Cable TV d) Bluetooth device

Q.4 NTT (Nippon Telephone and Telegraph) was used in (CO2)

a) Japan b) China

c) Russia d) Korea

Q.5 ETACS (European total access communication

system) is _____generation cellular system (CO2)

a) 1st b) 2nd

c) 3rd d) 4th

Q.6 Microcells are used in (CO2)

a) High density areas such as large cities

b) low density areas

c) forests

d) desserts

Q.7 TDMA stands for (CO3)

a) Total division multiple access

b) Tedious division multiple access

c) Time division multiple access

d) Total different multiple access

Q.8 Bluetooth is used for creating personal network in the_____band (CO4)

a) 2.4 Hz b) 2.4 KHz

c) 2.4 MHz d) 2.4 GHz

Q.9 _____wireless communication offers higher speed of data transfer (CO5)

a) 1G b) 2G

c) 3G d) 4G

Q.10 Which of the following is NOT a part of a mobile cell phone . (CO6)

a) Power IC b) Antenna switch

c) Voltmeter d) Charging IC

SECTION-B

Note: Objective Completion type questions. All questions are compulsory. 10x1=10

Q.11 Write relationship between frequency and wavelength. (CO1)

Q.12 What is the shape of cell in cellular system? (CO2)

Q.13 Write full form of WCDMA. (CO3)

Q.14 Define BSC. (CO4)

Q.15 Write full form of PSTN. (CO4)

Q.16 Write full form of UMTS. (CO5)

Q.17 Write full form of HSPA. (CO5)

Q.18 What is the function of charging IC in the mobile phone? (CO6)

Q.19 What is the function of RAM in the mobile phone? (CO6)

Q.20 Define TDD. (CO3)

SECTION-C

Note: Short answer type questions. Attempt any twelve questions out of fifteen questions. 12x5=60

Q.21 Write a short note on electromagnetic waves. (CO1)

Q.22 Explain, geographic effects on communication. (CO1)

Q.23 Write a short note on 1G. (CO2)

Q.24 What is cell? Define Cell area. (CO2)

Q.25 Explain the concept of frequency reuse. (CO2)

Q.26 Explain the method of power control for reducing interference. (CO2)

Q.27 Write short note on Cell splitting. (Co2)

Q.28 Write differences between FDMA and TDMA. (CO3)

Q.29 What is CDMA? Explain. (CO3)

Q.30 Comparison between CDMA and GSM system. (CO4)

Q.31 Write a short note on “EDGE”. (CO4)

Q.32 What are features of UMTS? (CO5)

Q.33 Write different steps for assembling of mobile phone. (CO6)

Q.34 Write any 10 parts of mobile phone. (CO6)

Q.35 Explain Cold testing method for fault finding of mobile components. (CO6)

SECTION-D

Note: Long answer type questions. Attempt any two questions out of three questions. 2x10=20

Q.36 What are different advantages of wireless Communication? (CO1)

Q.37 Explain the architecture of GSM with the help of suitable diagram. (CO4)

Q.38 Explain in detail, the architecture of LTE. (CO5)