GOVERMENT ARTS AND SCIENCE COLLEGE FOR WOMEN (R)

DEPARTMENT OF ELECTRONICS AND COMMUNICATION

CYCLIC EXAM - 1

SEMICONDUCTOR DEVICES

CLASS : B.SC 1 yr [EC]

DATE : 9/8/2018

MAX. MARKS : 50

TIME : 2 hrs

5 X 2 = 10

PART - A

ANSWER ALL QUESTIONS :-

1) Define "Atomic Number"

2) What is Mean by Semiconductor and give a Example two.

3) What is a PN Junction diode

4) What is mean by Extrinsic Semiconductor.

5) Write a cut-in-voltage of silicon and Germanium.

ANSWER ALL QUESTIONS :- 4 X 5 = 20

6) Explain for Structure of Atom.

7) Explain about N-type Semiconductor.

8) With neat diagram and explain for PN junction diode forward Bias Condition.

9) Explain for Zener diode with V-I characteristics.

ANSWER ~~ANY~~ QUESTIONS :- 2 X 10 = 20

10) Briefly explain for with neat diagram and Energy band of Conductors, Insulator, and Semiconductor

11) derive a Calculation of depletion width.

N. Lakshmi

Subject Incharge Staff

Government Arts & Science College for Women.

Department of Electronics & communication.

Cyclic Exam - II

B.Sc I yr Semiconductor Devices.

1) What is a transistor.
2) Draw a symbol of NPN & PNP transistors.
3) Mention a types of Configuration.
4) What is a mean by Saturation.
5) Define output admittance

PART - B

6) Briefly explain for PN junction as Rectifier.
7) Explain for Diode Resistance.
8) With Suitable diagram and explain for NPN transistor operation
9) With Suitable diagram and explain for operation of PNP transistors.

PART - C

10) Derive a diode current equation.
11) With neat diagram and Briefly explain for CB Configuration with characteristics.

GOVERNMENT ARTS AND SCIENCE COLLEGE FOR WOMEN, BARGUR-635104.

DEPARTMENT OF ELECTRONICS & COMMUNICATION

MODEL EXAM OCTOBER 2018

SEMICONDUCTOR DEVICES

Date :

Class : I B.Sc.,(EC)

Maximum : 75 marks

Time : 3 hours

PART – A

Answer all questions (marks : 10*2=20)

1.What is a semiconductor?

2.Name any two pentavalent ,trivalent impurities

3.Define diffusion?

4.What is zener diode and draw a symbols?

5.Draw a symbol of NPN and PNP transistor?

6.What is a common –base configuration?

7.What is a JFET?

8.Define amplification factor?

9.Expand JFET,MOSFET

10.Name the two types of MOSFET?

PART – B

Answer the following. (mark : 5*5=25)

11. (a).Write short notes on structure of atom? (or)

(b).What is a extrinsic semiconductor and explain?

12. (a).Discuss about effect of diode current equation? [or]

(b).How to work diode act as a rectifier?

13. (a) describe the operation of NPN transistor (or)

(b) Explain for transistor act as an amplifier?

14. (a).Compare a BJT and FET? (or)

(b).Write short on JFET as a voltage variable resistor?

15 (a).Write a compare between JFET and MOSFET? (or)

(b).List out the various precautions for handling MOSFET?

PART-C

Answer any three of the following (mark : 3*10=30)

16.Explain the energy band diagram of conductor, insulator and semiconductor?

17.Explain the construction , work and V-I characteristics of a PN junction diode?

18. Briefly explain for CE configuration?

19.Discuss in detail the operation of N-channel JFET?

20.Explain the working of P-channel enhancement MOSFET?

N. Lavet

Subject incharge 3/10/18

18. With suitable sketches, explain the operation of a NPN transistor.

19. Explain the various parameters of JFET and obtain the relation among JFET parameters.

20. Explain the construction and operation of a N-channel and P-channel enhancement MOSFET with suitable sketches.

———————

S.No. 2328 **17UEL01**

(For the candidates admitted from 2017-2018 onwards)

B.Sc. DEGREE EXAMINATION, NOVEMBER 2018.

First Semester

Electronics and Communication

SEMICONDUCTOR DEVICES

Time : Three hours Maximum : 75 marks

PART A — (10 × 2 = 20 marks)

Answer ALL questions.

1. Define the terms Atomic number and Atomic mass.

2. What is meant by intrinsic semiconductor? Mention any two of widely used intrinsic semiconductor.

3. What is static resistance of a diode?

4. Define the term: Diffusion Capacitance.

5. What do you mean by operating point of a transistor?

6. What is the saturation of a transistor?

7. What is the pinch off voltage in JFET?

8. Mention any two advantages of a JFET.

9. Write any two comparison of P-channel with N-channel MOSFETs.

10. What is channel length modulation in MOSFET?

PART B — (5 × 5 = 25 marks)

Answer ALL questions.

11. (a) What do you understand by Covalent bond? Explain with an example.

Or

(b) What is p-type semiconductor? Explain with suitable sketch.

12. (a) Obtain the diode current equation.

Or

(b) Explain the reverse characteristic of a Zener diode.

13. (a) Discuss the input characteristics of a transistor in CE Configuration.

Or

(b) Describe the working of a Transistor as an amplifier.

14. (a) Explain the working of JFET.

Or

(b) Explain the working of JFET as a voltage variable resistor.

15. (a) Compare MOSFET with JFET.

Or

(b) Write down the handling precautions for MOSFET.

PART C — (3 × 10 = 30 marks)

Answer any THREE questions.

16. Describe the insulators, conductors and semiconductors using energy band diagram.

17. Discuss in detail, the theory of PN junction diode.

Government Arts & Science College for Women,
Bargur - 635 104
Department of Electronics & Communication
Cycle test 2 - September 2018

Subject : Applied Electronics
Class : I M.Sc E&C

Part - A

Answer all questions $5 \times 2 = 10$ m

1. Write about binary number system
2. Solve : $AB + \bar{A}C + BC$
3. What is the use of gray code
4. What is a half adder?
5. What are invalid BCD codes? Why are the called so?

Part - B

Answer all questions $A \times 5 = 20$ m

6. Write about octal number system in detail
7. Explain in detail about Gray code.
8. With need diagram, explain about half subtractor
9. Write about DeMorgan's theorem with Proof.

Part - C

Answer all questions $2 \times 10 = 20$ m

10. Solve using k map :
$F(A, B, C, D) = \Sigma(0, 3, 4, 7, 8) + \Sigma d(10, 11, 12, 13, 14, 15)$
11. Explain in detail about full adder and full Substractor.

GOVERNMENT ARTS & SCIENCE COLLEGE FOR WOMEN, BARGUR – 635104

DEPARTMENT OF ELECTRONICS & COMMUNICATION

MODEL EXAM – OCTOBER 2018

APPLIED ELECTRONICS – 17PEL01

PART-A

Date: 27 /10/2018

Answer all questions

Marks: 5*5=25

1. (a). Write a note on transistor biasing. (or)
   (b). Explain about E-MOSFET.
2. (a). Explain about push pull amplifier. (or)
   (b). Explain about the working of Schmitt trigger.
3. (a) Prove universality of NAND gates (or)
   (b). Explain about excess 3 code system.
4. (a). Explain about the working of D flip flop (or)
   (b). Write about full adder.
5. (a). Write about A/D converter. (or)
   (b). Write a short note on UP counter.

PART – B

Answer all questions

Marks: 5*10=50

6. (a) Explain in detail about the working of full wave rectifier. (or)
   (b) Explain in detail about the construction and working of JFET.
7. (a) Write in detail about the working of phase shift oscillator. (or)
   (b) Explain in detail about the working of single stage amplifier.
8. (a) Explain in detail about the various number systems and conversion from one system to another. (or)
   (b) Simplify the following using k map and implement it using logic gates.
   $F(A,B,C,D) = \sum (0,3,4,7,8) + \sum_d (10,11,12,13,14,15)$
9. (a) Explain in detail about the working of JK master slave flip flop . (or)
   (b) With neat diagram, explain the working of half and full subtractor circuits in detail.
10. (a) Explain in detail about D/A converter. (or)
    (b) Explain in detail about ripple counter.

S.No. 270 **17PEL01**

(For the candidates admitted from 2017–2018 onwards)

M.Sc. DEGREE EXAMINATION, NOVEMBER 2018.

First Semester

Electronics and Communication

APPLIED ELECTRONICS

Time : Three hours Maximum : 75 marks

PART A — ($5 \times 5 = 25$ marks)

Answer ALL questions.

1. (a) What is a photo diode? Explain its working.

Or

(b) Explain the V-I characteristics of a tunnel diode.

2. (a) What is class B power amplifier? Explain its working.

Or

(b) With a neat diagram, explain the working of monostable multivibrator.

3. (a) Write a note on Excess-3 code.

Or

(b) Construct AND and OR gate using only NAND gate and verify their truth table.

4. (a) Explain with a neat circuit diagram, the working of BCD to decimal decoder.

Or

(b) Draw and explain the working of serial in-parallel out shift register.

5. (a) Explain the working of variable resistor network method of DAC.

Or

(b) Find the output voltage from a 5-bit binary ladder that has a digital input of 11010. Assume that 0 = 0V and 1 = +10V.

PART B — (5 × 10 = 50 marks)

Answer ALL questions.

6. (a) With a neat sketch, explain the working of full wave bridge rectifier. Derive an expression for efficiency.

Or

(b) Explain with a neat schematic diagram, the construction and operation of depletion type MOSFET.

7. (a) Explain with a neat circuit diagram, the working of two-stage RC coupled amplifier.

Or

(b) Draw a phase shift oscillator circuit and explain its working.

8. (a) Convert decimal 175 into (i) binary (ii) octal (iii) hexadecimal and (iv) BCD

Or

(b) Simplify the given equation using K-map and draw the logic circuit for the simplified equation.

$f(A, B, C, D) = \sum (4, 6, 7, 9, 11, 13, 14, 15)$.

9. (a) Draw the circuit diagram for half subtractor and full subtractor and explain their working.

Or

(b) Explain the action of RS flip flop and clocked RS flip flop.

10. (a) Explain with a neat circuit diagram and waveform, the working of UP/DOWN counter.

Or

(b) With a neat circuit diagram, explain the operation of simultaneous method of ADC.

———————

GOVT. ARTS & SCIENCE COLLEGE FOR WOMEN, BARGUR
DEPT. OF ELECTRONICS & COMMUNICATION
CYCLIC TEST - I - JAN '2019

SUB : PC HARDWARE & TROUBLESHOOTING

CLASS : III BSC (EC) MAX. MARKS : 50
DATE : TIME : 2 HOURS

SECTION - A (5X2 = 10 MARKS)

ANSWER ALL THE QUESTIONS :

1. List out the motherboard components?
2. Expand : BIOS, POST, RDRAM, RIMM, SIMM, DDR SDRAM.
3. Write any two functions of BIOS?
4. What is a shadow memory?
5. What is a battery? and give its usage?

SECTION - B (4X5 = 20 MARKS)

6. Write short notes on support circuits on mother board?
7. Write briefly about physical memory organization?
8. Explain in detail about cache memory?
9. Explain briefly about DDR memory?

SECTION - C (2X10 = 20 MARKS)

10. Explain in detail about Intel 845 chipset?
11. Explain in detail about motherboard installation?

Cyclic Exam - II

GOVT. ARTS & SCIENCE COLLEGE FOR WOMEN, BARGUR.
DEPT. OF ELECTRONICS & COMMUNICATION
CYCLIC TEST - II - FEB' 2019

SUB : PC HARDWARE & TROUBLESHOOTING

CLASS : III BSC (E&C)
DATE : 18.02.2019 , FN

MAX. MARKS : 50
TIME : 2.00 Hrs

PART - A (5X2 = 10 MARKS)

ANSWER ALL THE QUESTIONS :

1. Expand : POST, BIOS, USB, ASCII, ATA, RDRAM
2. Give any three Bios Beep codes and its functions?
3. What is a keyboard Ergonomics?
4. What is a mouse resolution?
5. Define Virus and give any three antivirus softwares?

PART - B (4X5 = 20 MARKS)

ANSWER ANY FOUR QUESTIONS ONLY :-

6. Write short notes on motherboard troubleshooting?
7. Explain briefly about Keyboard organization?
8. Explain briefly about mouse connection and installation?
9. What is a mouse? and also explain its types?
10. Explain briefly about Computer Virus types?

PART - C (2X10 = 20 MARKS)

ANSWER ANY TWO QUESTIONS ONLY :

11. Explain in detail about Bios & Bios Functions?
12. Describe in detail about keyboard types?
13. Explain in detail about motherboard and Cabinet formfactor?

(31) copies

GOVERNMENT ARTS & SCIENCE COLLEGE FOR WOMEN, BARGUR – 635104

DEPARTMENT OF ELECTRONICS & COMMUNICATION

MODEL EXAM – MARCH 2019

PC HARDWARE AND TROUBLE SHOOTING – 12UELN07

Date : 20/03/2019 Maximum : 75 Marks

Class : III B.Sc.,(E&C) Time : 3 Hours

PART-A

Answer all questions **Marks: 10*2=20**

1. List the components of Mother Board?
2. Define the term cache memory.
3. Expand: BIOS, POST, DDR, RDRAM, SDRAM, SIMM,PCI, RWM, SDR, DVI.
4. List the advantages of battery?
5. List the types of keyboard?
6. What is a Mouse?
7. What is mean by Form factor?
8. What is a pendrive?
9. Define the term Virus.
10. List the types of printers?

PART – B

Answer all questions **Marks: 5*5=25**

11. (a). Write a short note on cache memory? **(or)**
    (b). Write short notes for support circuits on motherboard?
12. (a). Write a short note on BIOS functions? **(or)**
    (b). Explain about BIOS beep codes?
13. (a). Explain briefly about mouse types? **(or)**
    (b). Write a short note on Keyboard Troubleshooting?
14. (a). Write short note on disk geometry?
    (b). Describe about the structure of a hard disk?
15. (a). Write a short note on power supply?
    (b). Write a Short note on Virus and Antivirus?

PART – C

Answer any three questions **Marks: 3*10=30**

16. Explain in detail about INTEL 845 Chipset?
17. Write in detail about the motherboard installation and trouble shooting?
18. Explain in detail about the keyboard organization and trouble shooting?
19. Write in detail about the CD drive working and installation and troubleshooting?
20. Explain in detail about the types, interface and troubleshooting of printers?

S.No. 2068

12UEL07

(For the candidates admitted from 2012–2013 onwards)

B.Sc. DEGREE EXAMINATION, APRIL 2019.

Sixth Semester

Electronics and Communication

PC HARDWARE AND TROUBLE SHOOTING

Time : Three hours Maximum : 75 marks

SECTION A — ($10 \times 2 = 20$ marks)

Answer ALL questions.

1. What is motherboard and how it works?
2. What is the meaning of DDR?
3. What are BIOS and its function?
4. What are the ports and connectors?
5. What are keyboard and its types?
6. What are the main functions of mouse?
7. What is the hard disk of a computer?

8. What is DVD for?

9. What is a printer and its types?

10. What is a computer virus?

SECTION B — (5 × 5 = 25 marks)

Answer ALL questions.

11. (a) What are the features of Intel 845 chipset?

Or

(b) What is shadow memory?

12. (a) What is the bios battery?

Or

(b) What are BIOS beep codes used for?

13. (a) Define neatly about the organization of a keyboard.

Or

(b) Explain about the mouse accuracy.

14. (a) Explain the HDD form factor.

Or

(b) Explain the structure of hard disk.

15. (a) Write short note on DVI.

Or

(b) Explain about the antivirus.

SECTION C — (3 × 10 = 30 marks)

Answer any THREE out of Five Questions.

16. Explain briefly about the physical memory organization.

17. Describe briefly about the mother board installation.

18. Write a brief note on mouse troubleshooting.

19. Explain briefly about the complete process involved in formatting a hard disk.

20. Describe briefly about the assembling a PC.

GOVERNMENT ARTS & SCIENCE COLLEGE FOR WOMEN, BARGUR – 635104

DEPARTMENT OF ELECTRONICS & COMMUNICATION

CYCLE TEST – I - JANUARY 2019

ANALOG AND DIGITAL COMMUNICATION SYSTEM

CLASS: I M.Sc (E&C) PART-A Date: 09 / 01 /2019 FN

Answer any 4 questions Marks: 4*5=20m

1. Write about space waves.
2. Write about extraterrestrial communication in detail.
3. Explain about helical antenna.
4. Write about the effects of ground on antennas.
5. Explain the working of lens antenna.

PART – B

Answer all 3 questions Marks: 3*10=30m

6. Write in detail about sky wave propagation.
7. What are the effects of environment on electromagnetic waves?
8. Write in detail about the workings of antennas with parabolic reflectors.

GOVERNMENT ARTS & SCIENCE COLLEGE FOR WOMEN, BARGUR – 635104

DEPARTMENT OF ELECTRONICS & COMMUNICATION

CYCLE TEST – II - FEBRARY 2019

ANALOG AND DIGITAL COMMUNICATION SYSTEM

CLASS: I M.Sc (E&C) PART-A Date: 18 / 02/2019 FN

Answer any 4 questions Marks: 4*5=20m

1. Define amplitude modulation.
2. Define frequency modulation.
3. Define modulation index of AM.
4. What is Pulse Amplitude Modulation.
5. What is Pulse code Modulation.

PART – B

Answer all 3 questions Marks: 3*10=30m

6. Write in detail about the frequency spectrum of the AM wave.
7. Explain about generation and demodulation of Pulse width modulation.
8. Explain about pulse code modulation.

(8) Copies

GOVERNMENT ARTS & SCIENCE COLLEGE FOR WOMEN, BARGUR – 635104

DEPARTMENT OF ELECTRONICS & COMMUNICATION

MODEL EXAM – MARCH - 2019

ANALOG AND DIGITAL COMMUNICATION SYSTEM

CLASS: I M.Sc (E&C)
Date: 21/03 /2019 FN

PART-A

Answer ALL questions Marks: 5*5=25m

1. (a) Write about space waves. (or)
   (b) Explain in detail about the working of helical antenna.
2. (a) Explain in detail about power relation in an AM wave.
   (b) Explain in detail about the generation of frequency modulated wave.
3. (a) Write about Pulse amplitude modulation in detail.
   (b) Write about Pulse position modulation in detail
4. (a) Write about Carrier Recovery Circuit.
   (b) Write about Differential Phase Shift Keying.
5. (a) Write about scanning of TV system.
   (b) Explain about black and white reception.

PART-B

Answer ALL questions Marks: 5*10=50m

6. (a) Write about sky wave propagation . (or)
   (b) Explain in detail about the microwave antenna in detail.
7. (a) Explain in detail about frequency spectrum of AM wave.
   (b) Explain in detail about the effect of noise on frequency modulation.
8. (a) Write about Pulse width modulation in detail.
   (b) Write about Pulse code modulation in detail
9. (a) Write about Asynchronous transmission in detail.
   (b) Write about Synchronous transmission in detail.
10. (a) Write about horizontal deflection circuit in detail.
    (b) Explain about television transmission and reception in detail.

S.No. 209

17PEL05

(For the candidates admitted from 2017–2018 onwards)

M.Sc. DEGREE EXAMINATION, NOVEMBER 2019.

Second Semester

Electronics and Communication

ANALOG AND DIGITAL COMMUNICATION SYSTEM

Time : Three hours Maximum : 75 marks

PART A — ($5 \times 5 = 25$ marks)

Answer ALL questions

1. (a) Discuss about the concept of reflection of waves.

Or

(b) What do you mean by antenna gain? Explain.

2. (a) Explain the frequency spectrum of AM wave.

Or

(b) Write a short note on frequency spectrum of FM wave.

3. (a) With a neat diagram, explain the working principle of PFM.

Or

(b) Explain the basic principle of PTM.

4. (a) Explain with a neat diagram, the concept of synchronization.

Or

(b) With a neat diagram, explain the working of carrier recovery circuits.

5. (a) Explain the concept of horizontal scanning.

Or

(b) With a neat block diagram, explain the function of each block of colour television transmitter.

PART B — (5 × 10 = 50 marks)

Answer ALL questions

6. (a) Explain in detail the concept of tropospheric scatter propagation and extraterrestrial communication.

Or

(b) Explain with a neat diagram, the working principle of microwave antenna.

7. (a) Explain in detail the power relation in the AM wave and derive an expression for it.

Or

(b) Describe the generation of FM using direct method with a neat block diagram.

8. (a) With a neat diagram, explain the working principle of pulse code modulation.

Or

(b) Explain detail the working of pulse position modulation and pulse width modulation.

9. (a) Explain in detail the working of matched filter and optimum terminal filter.

Or

(b) With a neat diagram, explain in detail the working of differential phase shift keying.

10. (a) With a neat block diagram, explain in detail the function of each block of typical monochrome television receiver.

Or

(b) Briefly explain the working of synchronizing circuits with a neat diagram.

———————

GOVERNMENT ARTS & SCIENCE COLLEGE FOR WOMEN, BARGUR

DEPT OF ELECTRONICS & COMMUNICATION

CYCLIC EXAM - I

SATELLITE AND DTH SYSTEM

CLASS : III B SC E&C TIME : 2 hour's

DATE : 7/08/2019 MAX. MARKS : 50

PART - A 5X2 = 10

1) Define Foot print area?

2) Define transponder

3) Mention a frequency range of up link & down-link frequency.

4) EXPAND : (a) INSAT (b) CCIR (c) LPT (d) HPT

5) Define GEO Stationary.

PART - B 4X5 = 20

6a) Explain about Geo Stationary Satellite.

7) With block diagram and explain for demodulation Section of the Earth Station reciever.

8) Explain about Satellite transponders

9) Explain about transmitting earth station.

PART - C 2X10 = 20

10) With neat diagram and explain for Satellite communication System

With neat diagram and explain for Indian domestic Satellites.

Govt Arts & Science coll...

GOVERNMENT ARTS AND SCIENCE COLLEGE FOR WOMEN, - BARGUR - 635104.
DEPARTMENT OF ELECTRONICS AND COMMUNICATION

CYCLE EXAM - II

SATELLITE, CABLE & DTH SYSTEM

CLASS : B.Sc III YEAR

DATE : 17/09/2019 AN

MAX. MARKS : 50

TIME DURATION : 2 HRS

PART - A 5 x 2 = 10

1) Define Cable television?

2) What is Meaning by focal point?

3) EXPAND : AGC, ASC, FEC, DTH.

4) Write a four Stages of digital Satellite transmission?

5) Write a merits of Digital TV receiver?

PART - B 4 x 5 = 20

6) Briefly explain about Scrambling of TV Signals.

7) Explain about Cable signal Sources

8) Write short note on Digital terrestrial Television (DTTT)

9) With neat diagram explain the working of DTH.

PART - C 2 x 10 = 20

10) With neat diagram and briefly explain about Cable signal processing.

11) Explain briefly with neat diagrams about digital Satellite reception.

21 Copies

GOVERNMENT ARTS AND SCIENCE COLLEGE FORWOMEN ,BARGUR.
DEPARTMENT OF ELECTRONICS AND COMMUNICATION
MODEL EXAM OCTOBER 2019
SATELLITE,CABLE AND DTH SYSTEM

CLASS,B SC III-YEAR — MAX MARKS,75
DATE : 17-10-2019 — TIME:3 HOURS

PART-A — 10*2=20

ANSWER ALL QUESTIONS

1)What do you mean by GEO stationary orbit?
2)Compare international and domestic broadcasting system?
3)What do you mean by cable connection?
4)List the usage of cable signal converters?
5) What do you mean by DTH?
6)What is difference between TV and digital TV?
7)EXPAND LNB ,AGC,FEC,INSAT.
8)What is the use of telephone jack?
9)What do you mean by site survey?
10)DD+ stands for

PART-B — 5*5=25

11.a)write short notes on satellite communication system? OR
b) Write about domestic broadcasting system?
12 a) Explain in brief about bi directional networks? OR
b) Write about cable signal distribution?
13 a) explain about DTH? OR
b)Explain DTT's functioning?
14.a)What is the importance of LNB?OR
b)Explain how TV in connected to cable channel?
15.a)What is importance of azimuth angle? OR
b)Write about radio channels on DD+?

PART-C — 3*10=30

16) With neat diagram and explain for Indian domestic satellite?
17) Explain in brief cable signal processing?
18)With neat diagram and explain for digital satellite transmission?
19)With neat diagram explain the working of DTH receiver?
20) Write about the functioning of DD direct plus in detail?

SUBJECT INCHARGE — HOD

S.No. 2152 **12UELE07**

(For the candidates admitted from 2012 – 2013 onwards)

B.Sc DEGREE EXAMINATION, NOVEMBER 2019.

Fifth Semester

Electronic and Communication

Elective – SATELLITE, CABLE AND DTH SYSTEMS

Time : Three hours Maximum : 75 marks

SECTION A — (10 × 2 = 20 marks)

Answer ALL the questions.

1. What is geostationary satellite?

2. Define direct-broadcast satellite(DBS).

3. How cable television works?

4. What is DTV converter box?

5. What is the difference between cable and satellite TV?

6. Define DTT.

7. Why a small dish antenna suffices for DTH receiver?

8. What is the need of telephone jack?

9. How to align a satellite dish by azimuth?

10. Define DD direct plus.

SECTION B — (5 × 5 = 25 marks)

Answer ALL the questions.

11. (a) Discuss the development series of INSAT satellites in India.

Or

(b) Explain briefly the domestic broadcast satellite system.

12. (a) Describe the signal sources of cable TV system.

Or

(b) Explain the bidirectional cable television transmission system.

13. (a) What is Direct To Home (DTH) television? Explain with suitable block diagram.

Or

(b) List the merits of digital TV receiver.

14. (a) Write a short note on DTH LNB.

Or

(b) Explain how to connect more than one TV to a single satellite receiver.

15. (a) Discuss the site survey form for dish installation.

Or

(b) List some of the TV and radio channels of DD direct plus.

SECTION C — (3 × 10 = 30 marks)

Answer any THREE questions.

16. With a neat block diagram, Explain the functioning of each block of a satellite communication system.

17. Explain the distribution of digital signals in cable TV system.

18. Explain the block diagram of a digital satellite transmission link.

19. Discuss the function of DTH receiver.

20. Explain the following :

(a) Trouble shooting dish antenna

(b) LNB testing

———————

GOVERNMENT ARTS & SCIENCE COLLEGE FOR WOMEN, BARGUR – 635104

DEPARTMENT OF ELECTRONICS & COMMUNICATION

CYCLE TEST I

APPLIED ELECTRONICS – 17PEL01

PART-A Date: 06 /08/2019

TOTAL MARKS : 50M

CLASS: I M.Sc (E&C)

Answer all questions Marks: 5*1=5

1. Base of hexadecimal number system is _____
   (a) 10 (b) 8 (c) 16 (d) 2
2. $(75)_{10} = (X)_{16}$, the value of X is _____
   (a) 4A (b) 4B (c) 4C (d) 4D
3. Gray equivalent of $(11010)_2$ is _____
   (a) 11001 (b) 10111 (c) 10110 (d) 10000
4. Which of the following is a universal gate ?
   (a) AND (b) OR (c) EX-OR (d) NOR
5. (A+B)C = _____
   (a) AB+BC (b) AB+CB (c) AC+BC (d)AB+AC

PART – B

Answer all questions Marks: 3*5=15

6. Write about decimal and hexadecimal number system.
7. How will you convert binary number into gray code and vice versa?
8. Explain the procedure to subtract two binary numbers using 2's complement subtraction method.

PART – C

Answer all questions Marks: 3*10=30

9. Simplify the following using K-Map
   $F(A,B,C,D) = \sum(1,2,5,6,7,8,9,10,14,15)$
10. Convert the decimal number 143.25 into equivalent hexadecimal, octal and binary numbers.
11. (a) $(1101011)_2 + (10110)_2 = ?$
    (b) $(1101011)_2 - (10110)_2 = ?$
    (c) $(101111)_2 + (110)_2 = ?$
    (d) $(101111)_2 - (110)_2 = ?$

Govt. Arts & Science College

GOVERNMENT ARTS & SCIENCE COLLEGE FOR WOMEN, BARGUR – 635104

DEPARTMENT OF ELECTRONICS & COMMUNICATION

CYCLE TEST I

APPLIED ELECTRONICS – 17PLL01

PART-A

Date: 16/09/2019

TOTAL MARKS : 50M

CLASS: I M.Sc (E&C)

Answer all questions

Marks: 5*1=5

1. Number of pn junction in BJT _____
   (a) 3 (b) 1 (c) 4 (d) 2
2. Which of the following is having regulation property ?
   (a) UJT (b) BJT (c) diode (d) zener
3. Which of the following converts electrical energy into light energy?
   (a) Photo diode (b) LED (c) diode (d) zener
4. Which of the following is a rectifier ?
   (a) Photo diode (b) LED (c) diode (d) zener
5. Which of the following is a voltage controlled device?
   (a) JFET (b) BJT (c) UJT (d)Diode

PART – B

Answer all questions

Marks: 3*5=15

6. Write about SR flipflop.
7. Write about half subtractor.
8. Explain the procedure of tabulation method with one example.

PART – C

Answer all questions

Marks: 3*10=30

9. Simplify the following using Tabulation method.
   $F(A,B,C,D) = \sum(1,2,5,6,7,8,9,10,14,15)$
10. Write in detail about full adder circuit.
11. Write in detail about JK flip flop

9 Copies

GOVERNMENT ARTS & SCIENCE COLLEGE FOR WOMEN, BARGUR – 635104

DEPARTMENT OF ELECTRONICS & COMMUNICATION

MODEL EXAM- OCTOBER 2019

APPLIED ELECTRONICS – 17PEL01

PART-A

Date 14/10/2019 TOTAL MARKS : 75M

CLASS: I M.Sc (E&C)

Answer all questions Marks: 15*1=15m

1. Which of the following exhibits regulation property?
   (a) UJT (b) BJT (c) diode (d) zener
2. _____ is a current controlled device
   (a) BJT (b)JFET (c) MOSFET (d) UJT
3. Which of the following material exhibits light emitting property?
   (a) Silicon (b) Germanium (c) Gallium arsenide (d) Aluminium
4. Which of the following amplifier has 50% of efficiency ?
   (a) Class A (b) Class B (c) Class AB (d) Class C
5. Phase shift produced by the tank circuit of an oscillator circuit is _____
   (a) 0° (b) 90° (c) 180° (d) 360°
6. Which of the following circuit produces Sine wave at its output?
   (a) Hartley (b) Astable (c) Monostable (d) Bistable
7. Half adder has ____ inputs
   (a) 1 (b) 2 (c) 3 (d)4
8. 8 input multiplexer has ___ select lines
   (a) 1 (b) 2 (c) 3 (d) 4
9. Which f/f can be used in register circuit?
   (a) SR (b) D (c) Clocked SR (d) T
10. Number of invalid codes in BCD number system
    (a) 4 (b)6 (c) 8 (d) 10
11. _____ is a universal gate
    (a) AND (b) OR (c) NOR (d)EX - OR
12. Number of cells in a 4 variable k map is ____
    (a) 8 (b)16 (c) 4 (d)32
13. Number of flip flops required to build a 16 bit counter is ____
    (a) 2 (b) 4 (c) 8 (d) 16
14. Fastest A/D converter is
    (a) SAR (b) Dual slope (c) Counter (d) Simultaneous
15. Input given to the inverting terminal of an op-amp designed as a comparator is high compared to the input given to the non-inverting terminal. Output of the comparator will be_____
    (a) +Vcc (b) -Vcc (c) 0 (d)5V

(6 pages)

S.No. 298

19PEL01

(For the candidates admitted from 2019–2020 onwards)

M.Sc. DEGREE EXAMINATION, NOVEMBER 2019.

First Semester

Electronics and Communication

APPLIED ELECTRONICS

Time : Three hours Maximum : 75 marks

PART A — (15 × 1 = 15 marks)

Answer ALL questions.

1. As a PN junction is forward biased
   (a) Holes as well as electrons tend to drift
   (b) The depletion region decreases
   (c) The barrier tends to breakdown
   (d) None of the above

2. In a zener diode with high breakdown voltage
   (a) Both P and N are heavily doped
   (b) Both P and N are lightly doped
   (c) Either P or N is lightly doped
   (d) None of the above

3. In an LC transistor oscillator, the active device is
   (a) LC tank circuit (b) Biasing circuit
   (c) Transistor (d) None of the above

4. Circuit which consists of quasi-stable state is called
   (a) bistable circuit
   (b) monostable circuit
   (c) tristable circuit
   (d) tristate circuit

5. Multivibrators which continuously switches from one state to another is
   (a) Astable multivibrator
   (b) Monostable multivibrator
   (c) Bistable multivibrator
   (d) Tristable multivibrator

6. The output stage of a multistage amplifier usually employs ———
   (a) push-pull amplifier
   (b) pre amplifier
   (c) class A power amplifier
   (d) none of the above

A boolean function may be transformed into

(a) logical diagram

(b) logical graph

(c) map

(d) matrix

Karnaugh map technique provides a systematic method for simplifying

(a) multiplexers

(b) logic gates

(c) boolean expressions

(d) none of the above

9. The basic storage element in a digital system is

(a) Flip flop (b) Counter

(c) Multiplexer (d) Encoder

10. Schmitt trigger is used as

(a) voltage to frequency converter

(b) frequency to voltage converter

(c) sequence wave generator

(d) none of the above

11. Process of converting data into a form that can be easily recognize.

(a) translation (b) data organization

(c) encoding (d) decoding

12. A circuit that has two stable states and used to store data.

(a) Logic gates (b) Flip flops

(c) Transistors (d) MOSFETS

13. Binary ladder network is resistive divider for DAC because

(a) it requires leaser number of resistors

(b) it requires resistor having 2 values only

(c) it is cheaper

(d) it gives better accuracy

14. If a counter is connected using 6 flip flops, then the maximum number of states that the counter counts.

(a) 6 (b) 8

(c) 256 (d) 64

15. The equivalent weight of a LSB in a 4 bit variable resistive divider D/A converter.

(a) 1/4 (b) 1/16

(c) 1/15 (d) 8/15

GOVERNMENT ARTS & SCIENCE COLLEGE FOR WOMEN, BARGUR – 635104

DEPARTMENT OF ELECTRONICS & COMMUNICATION

CYCLE TEST – I – FEBRUARY 2020

ELECTRONIC DEFENSE SYSTEMS

CLASS: III B.Sc (E& C) PART-A Date: 4/02/2020 FN

Answer all questions Marks: 5*2=10

1. State the mission of The Army.
2. State the mission of The Navy.
3. State the mission of The Air force.
4. Categorize the corps of the Army.
5. What is EWR?

PART – B

Answer any 4 questions Marks: 4*5=20

6. Write about a vital role played by electronic technology in defense system.
7. What are the functions of jammers?
8. Write about chaff.
9. State the objectives of electronic defense.
10. Write in detail about the main weapon systems.

PART – C

Answer any 3 questions Marks: 2*10=20

11. Enumerate about the Air force in detail.
12. Sketch the organization of electronic defense and explain it.
13. Elucidate the functioning of the Navy.

GOVERNMENT ARTS & SCIENCE COLLEGE FOR WOMEN, BARGUR – 635104

DEPARTMENT OF ELECTRONICS & COMMUNICATION

CYCLE TEST – II – MARCH 2020

ELECTRONIC DEFENSE SYSTEMS

CLASS: III B.Sc (E& C) PART-A Date: 3/ 03 /2020

Answer all questions Marks: 5*2=10

1. Define seeker.
2. What is an autopilot?
3. Define beam riding missile.
4. What is electronic support measure systems.
5. What is a laser warning receivers.

PART – B

Marks: 4*5=20

Answer any 4 questions. Answer 2 questions from 6,7,8 & 2 questions from 9,10,11

6. Give an introduction about weapon system.
7. Write about command missile.
8. Write about active homing missile.
9. Briefly introduce about electronic intercept system.
10. Write in detail about omnidirectional antenna
11. Describe about direction finding antenna.

PART – C

Answer all questions Marks: 2*10=20

12. (a) Enumerate about Artillery system

(or)

(b) Describe about information operations in detail

13. (a) Elucidate the functioning of radar warning receiver.

(or)

(b)Write in detail about electronic support measures.

S.No. 2733

17UELE10

(For the candidates admitted from 2017–2018 onwards)

B.Sc. DEGREE EXAMINATION, APRIL/MAY 2020.

Sixth Semester

Electronics and Communication

ELECTIVE III – PAPER III ELECTRONIC DEFENSE SYSTEMS

Time : Three hours Maximum : 75 marks

SECTION A — (10 × 2 = 20 marks)

Answer ALL the questions

1. Define Electronic Defense.
2. Write any two objectives of Electronic Defense.
3. List out any two Missiles systems.
4. Define passive Antiradiation missiles.
5. Write down the uses of Digital receivers.
6. Define Infrared Intercepts systems..
7. Define On Board passive systems.

8. List out any 3 ECM techniques.

9. What is the use of Tracking Radar Counter.

10. Define communicationa counter,

SECTION B — (5 × 5 = 25 marks)

Answer ALL the questions

11. (a) Discuss about the Main weapon System.

Or

(b) Explain operational objectives in electronic Defense.

12. (a) Explain any one of the Missile systems.

Or

(b) Describe about the passive antiradiation Missiles.

13. (a) Explain about Radar warning receivers.

Or

(b) Write short notes on Electronic Intelligent.

14. (a) Write short notes on Infrared countermeasures.

Or

(b) Write briefly about Communications Countermeasures.

15. (a) Explain about tracking Radar Systems.

Or

(b) Discuss about the communication counter.

SECTION C — (3 × 10 = 30 marks)

Answer any THREE questions

16. Explain the need for the study of weapon systems.

17. Briefly explain about the stealth Information Operations.

18. Discuss about the Omnidirectional Antennas.

19. Explain the Off Board passive and active ECM systems.

20. Explain the New Electronic Defense Architecture.

———————

GOVERNMENT ARTS & SCIENCE COLLEGE FOR WOMEN, BARGUR – 635104

DEPARTMENT OF ELECTRONICS & COMMUNICATION

CYCLE TEST – I FEBRUARY 2020

INDUSTRIAL AUTOMATION

CLASS: II M.Sc (E&C) PART-A Date: 3/ 02 /2020 AN

Answer any 4 questions Marks: 4*5=20m

1. Explain about time delay relays.
2. Discuss about different machine control terminologies.
3. Analyze how physical component varies from program components.
4. Sketch the system block diagram of programmable controller.
5. Show how always ON and always OFF contacts work in a ladder diagram.

PART – B

Answer all questions Marks: 3*10=30m

6. Discuss about functions of various electrical components and their symbols.
7. Sketch the ladder diagram for Two handed operation with Tie-down and Anti-Repeat functions and explain it.
8. Illustrate how the ladder diagram is solved by the PLC with an example.

GOVERNMENT ARTS & SCIENCE COLLEGE FOR WOMEN, BARGUR – 635104

DEPARTMENT OF ELECTRONICS & COMMUNICATION

CYCLE TEST – II - MARCH 2020

INDUSTRIAL AUTOMATION

CLASS: II M.Sc (E&C)

PART-A

Date: 2 / 03/2020

Marks: 4*5=20m

Answer any 4 questions. Answer 2 questions from 1,2,3 & 2 questions from 4,5,6

1. Explain about AND ladder rung and write its contact command.
2. Write about sequencers.
3. Enumerate about timers of PLC.
4. Sketch and enumerate about the output wiring of PLC
5. Describe about relay output of PLC
6. Write about analog (D/A) output of PLC.

PART – B

Answer all questions

Marks: 3*10=30m

7. Discuss about one shot ladder programming sequence.
8. Describe about JK flip flop ladder programming
9. Illustrate how the PLC is powered.

5 pages)

S.No. 2

22/9/2020

S.No. 356

17PEL10

(For the candidates admitted from 2017 – 2018 onwards)

M.Sc. DEGREE EXAMINATION, APRIL/MAY 2020.

Fourth Semester

Electronics and Communication

INDUSTRIAL AUTOMATION

Time : Three hours Maximum : 75 mark

PART A — (5 × 5 = 25 marks)

Answer ALL the questions.

1. (a) Discuss about the control transformers.

Or

(b) Write short notes on machine controller terminologies.

2. (a) Brief about the operation of always ON and OFF contacts.

Or

(b) What is the function of disagreemen circuits? Explain.

3. (a) Brief about concept of AND ladder rung.

Or

(b) Explain the concept of automatic one shot.

4. (a) Discuss about the concept typical DC Powe Wiring with necessary diagram.

Or

(b) What are the basic Relay Contac Arrangements? Explain.

5. (a) Discuss about off delay timer programming.

Or

(b) How will you create AND logic function Explain.

PART B — (5 × 10 = 50 marks)

Answer ALL questions.

6. (a) Explain the concept of implementing the OR AND function using logic chips.

Or

(b) Describe about different types of switche available for implementation.

7. (a) Describe the function of typical syste components of modularized PLC.

Or

(b) Draw the programmable controller bloc diagram and explain its function.

8. (a) Describe about ladder program executio sequence for J-K flip-flop.

Or

(b) Explain about simple branch functions wit necessary example.

9. (a) Explain about the classification of sense output.

Or

(b) Describe about TRIAC output unit an output wiring.

10. (a) Explain about creation of NAND and NOI logic gate functions.

Or

(b) Describe the usage of calendar functions.

GOVERNMENT ARTS AND SCIENCE COLLEGE FOR WOMEN, BARGUR-635104

DEPARTMENT OF ELECTRONICS AND COMMUNICATION

APPLIED ELECTRIC CIRCUIT

CYCLE TEST-NOV - 2020

DATE:06/11/20 TIME:10am – 12pm

I B.SC [E & C] Max Marks:50

PART A[1X5=5]

ANSWER ALL QUESTIONS

1.The statement which correctly represents ohms law:

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

2.The unit of Inductor is

(a). Ohm's
(b). Farad
(c). Hendry
(d). Columb

3. The capacitance is a circuit component that oppose the change in circuit

(a). Current
(b). Voltage
(c). Impedance
(d). None of the above

4. Resistivity of a wire depends on

(a). Length
(b). Material
(c). Cross section area
(d). All of the above.

5 Kirchoffs second law is based on law of conservation of

(a). Charge
(b). Energy
(c). Momentum
(d). Mass

PART B[3X5=15]
ANSWER ANY 3 QUESTIONS

6.Write short notes on inductor.

7.Explain about Energy stored in inductance and capacitance.

8. Write short notes on the Factors governing resistance of a resistor.

9.Explain about Ohm's law.

10.Write about open and short circuit.

11.Explain about Star and Delta connections.

PART – C[3x10=30]
ANSWER ALL QUESTIONS

13.Explain in detail about Resistors in series & parallel and Inductors in series and parallel.

14.Write about Factors governing the capacitance and inductors.

15.Write about Kirchhoff's law of current Division and voltage Division.

GOVERNMENT ARTS & SCIENCE COLLEGE FOR WOMEN, BARUGUR – 635 104

DEPARTMENT OF ELECTRONICS & COMMUNICATION

CYCLE TEST – II – NOVEMBER 2020

SUB : IC's AND THEIR APPLICATIONS

Date : 19/11/2020, AN | Maximum : 50 Marks

Class : III B.Sc (E&C) | Time : 2 Hours

PART-A

Answer all questions | **Marks: 5*2=10**

1. What is an IC?
2. Expand: PLL, SSI, MSI, LSI and VLSI.
3. Write any three applications of 555 timer.
4. Draw the pinout diagram of IC 555.
5. Define the term Capture range.

PART – B

Answer any FOUR Questions out of SIX | **Marks: 4*5=20**

Answer any TWO questions from 6, 7 and 8

6. Write a note on silicon wafer preparation.
7. Explain briefly about active component fabrication.
8. Write short note on Photolithography.

Answer any TWO questions from 9, 10 and 11

9. Explain briefly about functional description of IC 555 timer.
10. Write a note on Schmitt trigger.
11. Write short note on Linear Ramp generator.

PART – C

Answer ALL Questions | **Marks: 2*10=20**

12. a) Explain in detail about basic planar processes of IC fabrication. **(or)**
    b) Describe in detail about FET fabrication.
13. a) Explain in detail about basic principles of PLL. **(or)**
    b) Explain the working principle of Astable Multivibrator using 555 timer.

S.No. 2302

17UEL06

(For the candidates admitted from 2017–2018 onwards)

B.Sc DEGREE EXAMINATION, NOVEMBER 2020.

Fifth Semester

Electronics and Communication

CORE VI-IC'S AND THEIR APPLICATIONS

Time : Three hours Maximum : 75 marks

PART A — (10 × 2 = 20 marks)

Answer ALL questions.

1. Mention the advantages of integrated circuits.
2. Why aluminum is perferred for metallization?
3. Write the difference between TTL and CMOS logic.
4. Mention the classification of saturated bipolar logic families.
5. Define Slew-Rate of an operational amplifier.
6. State CMRR of an op-amp.

7. Write the demerits of passive filters.

8. What happens if orders of active filter increases?

9. Define capture range of phase locked loop.

10. List the application of timer 555 used in monostable mode of operation.

PART B — (5 × 5 = 25 marks)

Answer ALL question

11. (a) List out the steps used in the preparation of Si-wafers with suitable sketch?

Or

(b) Discuss the fabrication of MOSFET in an IC with necessary diagram.

12. (a) Explain DTL logic with neat sketch.

Or

(b) Discuss the basic operations of ECL logic.

13. (a) Explain OP-Amp multiplier and divider circuits with suitable examples.

Or

(b) With neat sketch discuss the operation of voltage to current converter.

14. (a) Explain the working of differentiator with suitable diagram.

Or

(b) Discuss the basic operations of narrow band pass filter.

15. (a) Explain the working of timer 555 in astable mode.

Or

(b) Draw the architecture of timer (555) and explain various blocks.

PART C — (3 × 10 = 30 marks)

Answer any THREE questions out of Five

16. With neat diagram explain the various steps involved in the fabrication IC.

17. Briefly discuss the characteristics of IC'S.

18. Draw the circuit diagram of op-amp differentiator and derive an expression for the output.

19. Elucidate the working of first order high pass filter. Show the design of HPF for the lower cut off frequency (F_L) of 1 kH_z with pass band gain of 3.

20. With neat sketch explain timer based FM detector.

GOVERNMENT ARTS AND SCIENCE COLLEGE FOR WOMEN, BARGUR-635104

DEPARTMENT OF ELECTRONICS AND COMMUNICATION

ANDROID DEVELOPMENT TOOLS AND APPLICATIONS -17PEL06

CYCLE TEST – NOVEMBER - 2020

CLASS: II M.SC [E & C]

DATE:19/11/20

SESSION: FN

TIME:10am – 12pm

Max Marks:50

PART A[1x5=5]

Answer all questions from the following

1. What is contained within the manifest xml file?
   A. The permissions the app requires
   B. The list of strings used in the app
   C. The source codes
   D. All other choices
2. What was the first phone released that ran the Android OS?
   A. Google gPhone
   B. T-Mobile G1
   C. Motorola Droid
   D. HTC Hero

3Which of the following is NOT a state in the lifecycle of a service?
   A. Starting
   B. Running
   C. Destroyed
   D. Paused

4. Status data will be exposed to the rest of the Android system via:
   A. Intents
   B. A content provider
   C. Network receivers
   D. Altering permissions

5. Which piece of code used in Android is not open source?
   A. Keypad driver
   B. WiFi? driver
   C. Audio driver
   D. Power management

PART B[3x5=15]

Answer any 3 questions from the following

6.Explain in detail about Android Development Tools.

7.Write about User's Environment in Android mobiles.

8.Explain in detail about Application of Manifest File

9. Explain in detail about Creating a Sound Pool in Android mobiles.

10.Explain about How the Camera taking Pictures?

11. Write about Media Store.

PART – C[3x10=30]

Answer all questions from the following

13. Write about Manifest Editor Lifecycle file.

14. Explain in detailed about Hardware-Imposed Design.

15. Write about Manipulating Raw Audio.

GOVERNMENT ARTS AND SCIENCE COLLEGE FOR WOMEN, BARGUR-635104

DEPARTMENT OF ELECTRONICS AND COMMUNICATION

ANDROID DEVELOPMENT TOOLS AND APPLICATIONS

DATE:04 /11/20 CYCLE TEST – NOV - 2020 TIME:10am – 12pm

II M.SC [E & C] Max Marks:50

PART A[1X5=5]

ANSWER ALL QUESTIONS

1. Android is based on Linux for the following reason.
   (a). Security
   (b). Portability
   (c). Networking
   (d). All of these

2. What operating system is used as the base of the Android stack?
   (a). Linux
   (b). Windows
   (c). Java
   (d).XML

3. What is contained within the manifest xml file?
   (a). The permissions the app requires
   (b). The list of strings used in the app
   (c). The source codes
   (d). All of the above

4. While developing Android applications, developers can test their apps on.
   (a). Emulator included in Android SDK
   (b). Physical Android phone
   (c). Third-party Emulators (You wave, etc.)
   (d). All three options will work.

5. When an activity doesn't exist in memory it is in.
   (a). Starting state
   (b). Running state
   (c). Loading state
   (d). Inexistent state.

PART B[3X5=15]
ANSWER ANY 3 QUESTIONS

6.Explain in detail for Dalvik Virtual Machine

7.Write about Open Handset Alliance.

8.Explain in detail about Android Application Architecture

9. Explain in detail about Developing with Eclipse

10.Write about a few Android Development Tools.

11. Write about Android Virtual Device.

PART – C[3x10=30]
ANSWER ALL QUESTIONS

13.Listout and explain various Native Android Applications

14.Explain about Android SDK Features

15. Write about Android Developer Tools Plug-In for Eclipse

Government Arts and Science College for Women, Bargur - 635104
Department of Electronics and Communication
Model Examination - November 2020
Core VI - Android Development Tools and Applications

Class: II.M.SC(E&C)
Date: 30/11/2020

Maximum marks:75
Time: 3 hours

PART A [15*1=15]
Answer ALL questions

1. Android is licensed under which open source licensing license?
   A. Gnu's GPL B. Apache/MIT C.OSS D. Sourceforge
2. What was the first phone released that ran the Android OS?
   A. Google gPhone B. T-Mobile G1 C. Motorola Droid D. HTC Hero
3. What year was the Open Handset Alliance announced?
   A.2005 B.2006 C.2007 D. 2008
4. Android tries hard to _____ low-level components, such as the software stack, with interfaces so that vendor-specific code can be managed easily.
   A. Confound Abstract Modularize D. Compound
5. Which among these are NOT a part of Android's native libraries?
   A. Weskit B. Dalvik C. OpenGL D.SQLite
6. Android is based on Linux for the following reason.
   A. Security B. Portability C. Networking D. All of these
7. What operating system is used as the base of the Android stack?
   A. Linux B. Windows C. Java D.XML
8. When developing for the Android OS, Java byte code is compiled into what?
   A. Java source code B. Dalvik application code C. Dalvik byte code D.C source code
9. Which of these are not one of the three main components of the APK?
   A. Dalvik Executable B. Resources C. Native Libraries D. Webkit
10. The R file is a(an) generated file
    A. Automatically B. Manually C. Emulated D. None of the above
11. The _____ file specifies the layout of your screen.
    A. Layout file B. Manifest file C. Strings XML D.R file
12. The XML file that contains all the text that your application uses.
    A.stack.xml B.text.xml C.strings.xml D.string.java
13. What runs in the background and doesn't have any UI components?
    A. Intents B. Content Providers C. Services D. Applications
14. When an activity doesn't exist in memory it is in.
    A. Starting state B. Running state C. Loading state D. Inexistent state.
15. YAMBA stands for Yet Another Mobile Banking App.
    A. True B. False

PART B [2*5=10]

Answer any TWO out of FIVE

16. Write about Native Android Applications
17. Explain about Android Development Tools.
18. Explain in detail about Application Manifest File.
19. Describe about Manipulating Raw Audio.
20. Write about Online shopping.

PART C [5*10=50]

Answer ALL questions

21. (a). Explain about Android SDK Features **[OR]**
    (b). Write about Android Application Architecture

22. a). How to Downloading and Installing the Android SDK. **[OR]**
    (b). List out the Types of Android Applications.

23. (a). Explain about Hardware-Imposed Design. **[OR]**
    (b). Write about Application's priority and its process states.

24. (a). Write short notes on (i)Creating a Sound Pool (ii). Camera for taking Pictures **[OR]**
    (b). Describe about Recording Video.

25. (a). Explain in detail about and Internet Connectivity. **[OR]**
    (b). Write about Near Field Communication (NFC)

(6 pages)

S.No. 3037

19PEL06

(For the candidates admitted from 2019–2020 onwards)

M.Sc. DEGREE EXAMINATION, NOVEMBER 2020.

Third Semester

Electronics and Communication

ANDROID DEVELOPMENT TOOLS AND APPLICATIONS

Time : Three hours Maximum : 75 marks

PART A — (15 × 1 = 15 marks)

Answer ALL questions.

1. _____ represents an exciting new opportunity to write innovative applications for an necessary wide range of devices.

(a) iOs

(b) Android

(c) Kaios

(d) SIRINOS

2. In android, native and third party applications are written with _____ api and executed on the _____ run time.

(a) same, same

(b) same, different

(c) different, same

(d) different, different.

3. What does AAPT stands for?

(a) Android Asset Processing Tool

(b) Android Asset Providing Tool

(c) Android Access Providing Tool

(d) Android Access Processing Tool

4. The starter package is a _____ format that contains the latest version of the android tools.

(a) PDF (b) .DOC

(c) JPEG (d) ZIP FILE

5. The set of static libraries that can reduce as part of grow projects is

(a) Extra library packages

(b) Aiding library packages

(c) Support library packages

(d) Other library packages

6. What does AdB stands for

(a) Android debug Bridge

(b) Android drive Bridge

(c) Android delete Bridge

(d) Android destroy Bridge

7. _____ enables you to alert users to application vent without healing focus or interrupt their current activity.

(a) alaram (b) intent

(c) services (d) notification

8. The file which defines the structure and meta data of your android application is _____

(a) data file (b) object file

(c) manifest file (d) program file

9. In building powerful inter application message passing frame work _____ are used extremely throughout android.

(a) services (b) content providers

(c) intents (d) source providers

10. To ensure a consistent media control experiment android should include the _____

(a) media controller (b) micro controller

(c) music controller (d) media processor

11. Can control the volume for each channel during play back using _____ method.

(a) volume set (b) set volume

(c) setup volume (d) volume up

12. _____ helps to manage audio when your application requires low audio latency and playing multiple audio streams simultaneously.

(a) sound tracker (b) audio tracker

(c) sound pool (d) audio editor

13. _____ is a communication protocol designed for short range and low bandwidth.

(a) WiFi (b) bluetooth

(c) ethernet (d) radio communication

14. The folder which contains the image asset file used an android studio application in.

(a) style-xml (b) mipmap

(c) colour-xml (d) layout

15. _____ is a communication protocol designed for medium range, high bandwidth and peer to peer communication.

(a) ethernet

(b) radio communication

(c) WiFi

(d) bluetooth

PART B — (2 × 5 = 10 marks)

Answer any TWO questions.

16. What is DALVIK VIRTUAL Machine and explain its functions.

17. Explain the various steps involved to create a new android project.

18. What is application manifest file and explain its uses.

19. Explain about the preparing radio for play back in android.

20. Explain about the connection requirements of bluetooth an android application.

PART C — (5 × 10 = 50 marks)

Answer ALL questions.

21. (a) Classify the various features of android over modern mobile development platforms.

Or

(b) Explain the development framework on android application.

22. (a) Explain about the functions involved to create android virtual device and launch configuration .

Or

(b) How do you installing and downloading the android SDK?

23. (a) Explain about the various consideration for developing for android.

Or

(b) Explain about the various android development tool in detail.

24. (a) Explain about using the media recorder to record video an android application.

Or

(b) Explain about using the camera for taking picture an android application.

25. (a) Explain about function involved in WiFi connectivity using android mobile applications.

Or

(b) Explain the function of online payment option an android application.

GOVERNMENT ARTS & SCIENCE COLLEGE FOR WOMEN,

BARUGUR – 635104

DEPARTMENT OF ELECTRONICS & COMMUNICATION

CYCLE TEST – I – FEBRUARY 2021

SUB: PC HARDWARE NETWORKING AND TROUBLESHOOTING

Date: 24/02/2021, FN (10.00am – 12.00PM)

class: III B.Sc (E&C)

maximum: 50 marks

Time: 2 Hours

Part – A

Answer all questions

marks: 5*2 = 10

1. what is a motherboard?
2. Expand: post, BIOS, PCI, ISA, EISA, IDE, MCA.
3. List out the pc components
4. Define cache memory
5. Define the term chipset.

part – B

marks: 4*5 = 20

Answer any four questions out of six

6. write a note on motherboard connectors
7. Explain briefly about motherboard connectors
8. write short note on BIOS beep codes.
9. Explain briefly about motherboard troubleshooting
10. write a note on Expansion slots in a motherboard
11. write short note on DMA controller.

marks: 2*10 = 20

Part – C

Answer all questions

12 a) Explain in detail about motherboard installation (or)

b) Describe in detail about support circuits on motherboard

13. a) Explain in detail about memory modules (or)

b) Discuss about cache memory and shadow memory.

SCIENCE COLLEGE FOR WOMEN, BARUGUR.

DEPT. OF ELECTRONICS & COMMUNICATION

CYCLE TEST - II APRIL 2021

SUB: PC HARDWARE TROUBLESHOOTING & NETWORKING

CLASS : III BSc [E&C]

MAXIMUM : 50 MARKS

DATE : 08/04/2021, FN

TIME : 2 HOURS

[10.00 AM TO 12.00 PM]

PART - A (5 X 2 = 10 MARKS)

Answer ALL Questions

1. What is shadow Memory?
2. What is a battery?
3. Write any two Bios upgrading methods.
4. List the types of Computer keyboards.
5. Define - Mouse and its Resolution

PART - B (4 X 5 = 20 MARKS)

Answer any Four out of six Questions:

6. Write short notes on keyboard troubleshooting.
7. Explain briefly about Mouse Connection.
8. Explain how to install mouse in a Computer.
9. Write a note on Cache Memory.
10. Write short note on Common Memory Errors.
11. Explain briefly about Bios setup.

PART – C 2×10 = 20 MARKS

Answer the following Questions in either or type:

12 (a) Describe in detail about keyboard organization

(OR)

(b) Explain in detail about various types of Mouse.

13 (a) Explain in detail about memory Modules

(OR)

(b) Describe in detail about BIOS functions

GOVERNMENT ARTS & SCIENCE COLLEGE FOR WOMEN, BARUGUR – 635 104.

DEPARTMENT OF ELECTRONICS & COMMUNICATION

MODEL EXAMINATION – APRIL 2021

SUB: PC HARDWARE NETWORKING AND TROUBLESHOOTING – 17UEL07

Date : 21/04/2021

Maximum : 75 Marks

Class : III B.Sc.,(E&C)

Time : 3 Hours

PART A – (10 × 2 = 20 Marks)

Answer all questions

1. What is a Mother Board?
2. Define the term Shadow memory.
3. Expand: BIOS, POST, DDR, RDRAM, SDRAM, PCI, RWM.
4. List the advantages of battery?
5. What are the types of keyboard?
6. What is a Mouse?
7. What is mean by Form factor?
8. Define the terms: tracks and sectors.
9. Define the term Virus.
10. How to setting up a network?

PART B – (5 × 5 = 25 Marks)

Answer all questions

11. (a). Write short note on cache memory. **(or)**
    (b). Write short notes for support circuits on motherboard?
12. (a). Write short note on BIOS functions. **(or)**
    (b). Explain about BIOS beep codes.
13. (a). Explain briefly about mouse types. **(or)**
    (b). Write short note on Keyboard Ergonomics.
14. (a). Write short note on disk geometry. **(or)**
    (b). Describe about the structure of a hard disk.
15. (a). Explain briefly about Preparation for Network Installation. **(or)**
    (b). Write Short note on Virus and Antivirus.

PART C – (3 × 10 = 30 Marks)

Answer any THREE questions out of FIVE

16. Explain in detail about Motherboard troubleshooting.
17. Write in detail about the Memory Modules.
18. Explain in detail about the keyboard organization and trouble shooting.
19. Write in detail about the Hard disk drive working and installation.
20. Explain in detail about Sharing Computer and Sharing Printer.

S.No. 6150

17UEL07

(For the candidates admitted from 2017–2018 onwards)

B.Sc. DEGREE EXAMINATION, APRIL/MAY 2021

Sixth Semester

Electronics and communication

PC HARDWARE NETWORKING AND TROUBLE SHOOTING

Time : Three hours

Maximum : 75 marks

PART A — (10 × 2 = 20 marks)

Answer ALL questions.

1. What is a motherboard?
2. What is form factor?
3. List the type of memories.
4. Define BIOS.
5. What is the use of the keyboard?
6. Draw the structure of a mouse.
7. What is a hard disk?

S.No. 6150

17UEL07

(For the candidates admitted from 2017–2018 onwards)

B.Sc. DEGREE EXAMINATION, APRIL/MAY 2021

Sixth Semester

Electronics and communication

PC HARDWARE NETWORKING AND TROUBLE SHOOTING

Time : Three hours Maximum : 75 marks

PART A — (10 × 2 = 20 marks)

Answer ALL questions.

1. What is a motherboard?
2. What is form factor?
3. List the type of memories.
4. Define BIOS.
5. What is the use of the keyboard?
6. Draw the structure of a mouse.
7. What is a hard disk?

8. List out the types of printers.

9. Define a network.

10. What is an antivirus?

PART B — (5 × 5 = 25 marks)

Answer ALL questions

11. (a) Write short note on trouble shooting of motherboard.

Or

(b) Define cabinet form factor.

12. (a) Explain about the cache memory.

Or

(b) Write short note on battery.

13. (a) Define neatly about the working of keyboard.

Or

(b) Explain about the installation of mouse.

14. (a) Explain the basic disk geometry.

Or

(b) Explain the interfacing of printer.

15. (a) Explain about the setting up a network.

Or

(b) Describe about the types of virus.

PART C — (3 × 10 = 30 marks)

Answer any THREE questions out of Five questions.

16. Explain briefly about the BIOS beep codes.

17. Describe briefly about the common memory errors.

18. Write a brief note on ergonomics of a keyboard.

19. Explain briefly about the complete formatting process of a hard disk.

20. Describe briefly about how a computer can be shared?

GOVERNMENT ARTS & SCIENCE COLLEGE FOR WOMEN.
BARUGUR - 635 104

DEPARTMENT OF ELECTRONICS & COMMUNICATION

CYCLE TEST-1 - FEBRUARY 2021

SUB: THIN FILM AND NANO TECHNOLOGY

Date: 24/02/2021, FN (10.00 — Maximum: 50 Marks

Class: II - M.Sc (EGC) — Time: 2 Hours

Part - A

Answer all questions — Marks: 5*1=5

Choose the correct answers for the following questions:

1. Identify the method from below which is not a typical PVD techique:
a) Direct current (DC) b) Evaporation b) Electeo - plating
c) Ion plating d) RF Sputtering

2) Unit of Vapor Pressure could be
a) Torr b) pascal c) mbar d) All the above

3) For PVD or Sputtering, the substrate can be a
a) conductor like metal b) Insulator like polymer
c) semi-conductor like silicon d) All the above

4) In Sputtering, the traget serves as the
a) Cathode b) Anode c) Neutral electrode
d) None of the above

5) Which of the following process is a plasma process?
a) cathodic arc deposition b) Reative ion plating
c) Ion beam desposition d) None of these.

Part - B

Answer any Three questions out of Six questions

Marks: 3*5=15

6. Write Short note on advances in thin film deposition techniques.
7. Explain briefly about two categories of deposition techniques.
8. Write a note on MBE.
9. Discuss about pulsed laser ablation method
10. Write about the advantages and disadvantages of PVD
11. Explain briefly about CVD process

Part - C

Answer ALL questions. Marks: 3*10=30

12. Explain in detail about physical vacuum deposition.
13. Describe in detail about e-beam
14. Discuss about sputtering process.

GOVT. ARTS & SCIENCE COLLEGE FOR WOMEN.
BARUGUR - 635 104.
DEPT. OF ELECTRONICS & COMMUNICATION

CYCLE TEST - II, APR' 2021

SUB: THIN FILM AND NANOTECHNOLOGY

CLASS : II M.SC [E&C] MAXIMUM: 50 MARKS

DATE : 09/04/2021, FN TIME: 2 HOURS
[10.00AM to 12.00PM]

PART - A

Answer ALL Questions: Marks: 5×1 = 5

Choose the correct answers for the following questions:

1. The beginning of a new phase transformation is known as ——
(a) Nucleation (b) Growth
(c) Segregation (d) Coring

2. Bourdon Tube is used for the measurement of gauge pressure of
(a) Gas (b) liquid fluid
(c) Solid (d) Both (a) & (b)

3. MEMS stands for ——
(a) Memory Electron Mechanical System
(b) Micro Elektro Mechanical system
(c) Many Electro Memory System (d) None

4. SET as a sensitive electronic device based on the —— effect
(a) Hall (b) Coulomb blockade (c) Seeback (d) None

— P.T.O —

5. Which one is an example of bottom-up approach for the preparation of Nano materials
(a) Etching (b) Dip pen nano-lithography (c) Lithography (d) Erosion.

PART - B

Marks: 3×5=15

Answer any THREE questions out of Six questions

6. Explain briefly about Vacuum seals.
7. Write a note on electrical feed through.
8. Write short notes on Vacuum pumps
9. Explain briefly about Nanolithography.
10. Write a note on quantum electronic devices
11. Write briefly about MEMS & NEMS.

PART - C

Answer all questions Marks: 3×10=30

12. Explain in detail about Vacuum gauges.
13. Describe in detail about Nucleation growth modes.
14. Explain in detail about Single Electron transistor.

GOVERNMENT ARTS & SCIENCE COLLEGE FOR WOMEN, BARUGUR – 635 104.

DEPARTMENT OF ELECTRONICS & COMMUNICATION

MODEL EXAMINATION – APRIL 2021

SUB: THIN FILM AND NANO TECHNOLOGY

Date : 24-04-2021, FN

Maximum : 75 Marks

Class : II M.Sc (E&C)

Time : 3 Hours(10.00am-1.00pm)

PART A – (15 × 1 = 15 Marks)

Answer all questions

Choose the correct answers for the following questions.

1. Bourdon tube is used for the measurement of gauge pressure of
   a) Gas b) Liquid fluid c) Solid d) Both (a) and (b)
2. The ionization gauge an instrument used for the measurement of
   a) Very low pressure b) Medium pressure c) High pressure d) Very high pressure
3. The beginning of a new phase transformation is known as _____
   a) Nucleation b) Growth c) Segregation d) Coring
4. Which of the following is a liquid phase thin film deposition method?
   a) PVD b) CVD c) ALD d) Sol-gel
5. Which of the following process is a plasma process?
   a) Cathodic arc deposition b) Reactive ion plating c) Ion beam deposition d) None
6. Identify the method from below which is not a typical PVD technique:
   a) Direct current (DC) evaporation b) Electro-plating c) Ion plating d) RF sputtering
7. Screen printing utilizes a _____ to control the location of the ink.
   a) Layer b) Mask c) Point d) Spot
8. _____measures a mass variation per unit area by measuring the change in frequency of a quartz crystal resonator.
   a) Quartz crystal microbalance b) Quartz Millimeter c) Nanometer d) None
9. _____ is the only commonly utilized stencil printing method utilized. It utilizes a fine mesh screen mounted to a frame.
   a) Copper screen printing b) Zinc screen printing
   c) Silk screen printing d) Linen screen printing
10. Single-electron transistor(SET) is a sensitive electronic device based on the _____ effect.
    a) Hall b) Coulomb blockade c) seeback d) None
11. Which one is an example of bottom-up approach for the preparation of nano materials?
    a) Etching b) Dip pen nano-lithography c) Lithography d) Erosion

12. NEMS stands for _____

a) Neutron Electron Memory System b) Nano Electro Mechanical Systems

c) Nano End Mechanical Some d) None

13. A magneto resistor is a resistor of which the electrical resistance changes when an external _____ is applied.

a) magnetic field b) electric field c) field theory d) flux density

14. OLED display is better than LED because _____

a) They are cheaper b) They have high brightness

c) Do not require any illuminating source d) Easy to manufacture

15. CNTs stands for _____

a) Carbon Nanotubes b) Carbon Nanotechnology

c) Carbon Nanoscience and technology d) Carbon Nine Technology

PART B - (2 × 5 = 10 Marks)

Answer any TWO questions out of FIVE.

16. Write short notes on Vacuum pumps.
17. Explain briefly about MBE technique.
18. Write briefly about Quartz crystal Microbalance.
19. Explain briefly about Nanolithography.
20. Write short notes on Organic LED's.

PART C – (5 × 10 = 50 Marks)

Answer ALL questions.

21. (a) Explain in detail about Vacuum gauges.

(Or)

(b) Describe in detail about Nucleation growth modes.

22. (a) Write in detail about Sputtering process and its types.

(Or)

(b) Discuss about MOCVD technique.

23. (a) Explain in detail about Screen printing.

(Or)

(b) Explain mechanical and adhesion characterization techniques to determine hardness.

24. (a) Explain in detail about the Single Electron Transistor.

(Or)

(b) Describe in detail about MEMS and NEMS.

25. (a) Explain in detail about Organic FET and photovoltaic cell.

(Or)

(b) Describe in detail about Carbon nano tubes.

Subject Incharge

Head of the Department

(6 pages)

S.No. 4257

19PEL09

(For the candidates admitted from 2019–2020 onwards)

M.Sc. DEGREE EXAMINATION, APRIL/MAY 2021

Fourth Semester

Electronics and Communication

THIN FILM AND NANO TECHNOLOGY

Time : Three hours Maximum : 75 marks

PART A — (15 × 1 = 15 marks)

Answer ALL questions.

1. _____ is a device that draws gas molecules from a sealed volume an order to leave behind a partial vacuum.

   (a) Water pump (b) Vacuum pump

   (c) Vacuum seal (d) Vacuum cleaner

2. _____ are grown by the deposition of material atom on a substrate.

   (a) Thin film (b) Micro film

   (c) Nano film (d) Integrated circuit

3. In _____ growth mode, the absorbate surface interaction are stronger than absorbate –absorate interaction.

(a) Frank-Vander merwe growth

(b) Isolated Island

(c) Stranski-krastanov growth

(d) Volmer-weber

4. CVD stands for

(a) Chemical vapour deposition

(b) Chemical volume deposition

(c) Chemical vacuum deposition

(d) Chemical value deposition

5. What is the range of incident angle (from normal) for sputtering technique.

(a) 30°-40° (b) 45°-55°

(c) 60°-70° (d) 75°-90°

6. Among the thin film deposition technique which is include in gas phase deposition

(a) PVD, CVD (b) Electroplating, CVD

(c) Spin coating, PVD (d) DP coating, PVD

7. _____ is the process of transferring a stencilled design on to a flat surface using a mesh screen, ink and a squeezer.

(a) Laser ablation (b) MOCVD

(c) Screen printing (d) PVD

8. Screen printing utilizes a _____ to control the location of the ink.

(a) Layer
(b) Mask
(c) Point
(d) Spot

9. QCM stands for_____.

(a) Quartz Crystal Microbalance
(b) Quartz Crystal Membrane
(c) Quartz Class Machines
(d) Quartz Crystaline Macrobalance

10. _____ is based on the application of nano technology in the field of electronics and electronic components.

(a) Micro electronics
(b) Miniature electronics
(c) Hybrid electronics
(d) Nano electronics

11. MEMS stands for _____.

(a) Macro-electro machine system
(b) Macro-electro mechanical system
(c) Micro-electro-mechanical system
(d) Micro-electro-machine system

12. _____ are a class of devices intergrating electrical and mechanical function on the nanoscale.

(a) NEMS (b) MEMS

(c) Nanotechnology (d) Thin film technology

13. _____ is the tendency of a material to change the value of its electrical resistance on externally applied magnetic filed.

(a) Variable resistance

(b) Magneto resistance

(c) Potenio-resistance

(d) Potentiometer

14. _____ is a laser which informally thick, planar active wave guide is achieved by lateral variation an confinement layer thickness or refractive index.

(a) Strong index guiding lasers

(b) Gas lasers

(c) Weak index guiding lasers

(d) Gain guided lasers.

15. _____ are cylindrical molecules that consists of rolled-up sheets of single layer carbon atom.

(a) Carbon nano tubes

(b) Chemical nano tubes

(c) Carbon micro tubes

(d) Multi carbon tubes

PART B — (2 × 5 = 10 marks)

Answer any TWO questions.

16. What is Vacuum pump and explain its functions.

17. What is electro chemical deposition and explain its functions.

18. Explain the function of Quartz crystal microbalance.

19. Explain about the basic concept of Nano electronics.

20. Explain carbon nanotubes and its uses.

PART C — (5 × 10 = 50 marks)

Answer ALL questions.

21. (a) Explain about the various types of vacuum gauges in detail.

Or

(b) Explain about the various types of growth modes on their film technology.

22. (a) Explain the principle involved in chemical vapour deposition.

Or

(b) Elaborate about the various types of thin film deposition techniques on detail.

23. (a) Describe about the various types of Thick film deposition technique in detail.

Or

(b) Explain the technique of optical method to determine the thickness of film.

24. (a) Explain the principle involved in single electron transistor.

Or

(b) Differentiate between NEMs and MEMs in detail.

25. (a) Elaborate the various types of Lasers in Nano devices.

Or

(b) Explain the principle of magneto resistance in nano magnetic materials.

GOVT. ARTS & SCIENCE COLLEGE FOR WOMEN, BARUGUR
DEPT. OF ELECTRONICS & COMMUNICATION
CYCLE TEST - I, SEPTEMBER-2021
SUB : OPTICAL FIBER COMMUNICATION

DATE : 27/09/2021, AN
CLASS : II M.SC [E&C]

MAXIMUM : 50 MARKS
TIME : 2 HRS
[1.00 pm to 3.00 pm]

PART - A

ANSWER ALL QUESTIONS : MARKS : 5×1 = 5

Choose the Correct answers for the following questions

1. In the structure of fiber optic cable the refractive index of a core is always _____ the refractive index of cladding.
(a) Less than (b) Equal to (c) Greater than (d) None

2. What is the principle of fibre optics?
(a) optical angle (b) Total internal reflection angle
(c) refraction angle (d) wave guide acceptance angle

3. Which of the following can be used as source to fiber optics?
(a) LED (b) LCD (c) LASER (d) Both (a) & (c)

4. What does LAN stands for?
(a) Local Area Network (b) Linear Angle Node
(c) Linear Area Network (d) Linear Access Network

5. Trunks are the lines that run between
(a) Subscribers and exchanges (b) Local Area Network
(c) Switching system & power plant (d) Switching stations

— PTO →

PART - B MARKS: 3×5=15

Answer any THREE questions out of Six questions.

6. Write short note on step index fiber structure.
7. Explain briefly about ray optic representat
8. Discuss about wave representation in optical fi
9. Differentiate between single mode fiber and multimode fiber.
10. Write briefly about optical fiber generat
11. Discuss about Junction Network in optical

PART - C MARKS: 3×10=30

ANSWER ALL QUESTIONS:

12. Write in detail about optical fiber type
13. Describe in detail about Maxwell's equation
14. Explain in detail about Trunk Netw

GOVT ARTS & SCIENCE COLLEGE FOR WOMEN, BARUR

DEPT OF ELECTRONICS & COMMUNICATION

CYCLE TEST-II - OCTOBER 2021

SUB: ELECTRONICS COMMUNICATION SYSTEM

DATE : 26/10/2021 MAXIMUM : 50 Marks

CLASS : III B.Sc [ESC] TIME : 2 HOURS.

PART - A

Answer ALL Questions : Marks : 5×2 = 10

1. Define Modulation Frequency
2. Define Modulation Index.
3. Defrentiate between wide band and narrow band.
4. write the application of TRF Receiver.
5. Define demodulation.

PART - B marks : 4×5 = 20

[Answer any four quesions]

6. write aboute the frequency spectrum of the FM wave
7. Explain about Direct and Indirect methods of FM.
8. Explain in detail about pre-Emphasis.
9. write and draw about superhetrodyne receiver.
10. Explain about AGC.
11. Explain about phone Discriminator.

PART - C

Marks: 2x10 = 20

12. (a) Explain in detail about Wide and Narro Band FM.

(b) Draw a block diagram and Explain FM Transmitter.

13. (a) Write short notes on

(i) De-Emphasis.

(ii) Ratio detector.

(10)

GOVERNMENT ARTS & SCIENCE COLLEGE FOR WOMEN, BARUGUR – 635 104.

DEPARTMENT OF ELECTRONICS & COMMUNICATION

MODEL EXAMINATION – NOVEMBER 2021

SUB: ELECTIVE - SATELLITE, CABLE AND DTH SYSTEMS – 19UELE06

Date: 02-12-2021, FN | Maximum: 75 Marks

Class: III B.Sc. (E&C) | Time : 3 Hours(10.00am-1.00pm)

PART A – (15 × 1 = 15 Marks)
[Answer all the questions]

Choose the correct answers for the following questions.

1. Which of the following is the first artificial satellite?
   a) Sputnik b) GSAT-17 c) GSAT19 d) IRNSS-1H

2. Satellites are classified into _____ types.
   a) 9 b) 10 c) 8 d) 12

3. A communication satellite uses _____ to transmit signal.
   a) Antenna b) Transponder c) Oscillator d) None of the above

4. What is the waveform of the sweep voltages?
   a) Trapezoidal b) Sawtooth c) Trigger d) Square

5. The signal might a video amplifier amplify?
   a) Aural IF b) Video c) Blanking d) Any of these

6. Cable television is an example of
   a) TDMA b) FDMA c) CDMA d) SDMA

7. The number of days when Earth's shadow falls on a geosynchronous satellite is
   a) 88 b) 277 c) 5 d) 10

8. Shannon's Law relates
   a) antenna gain to frequency
   b) noise power to bandwidth
   b) information-carrying capacity to S/N ratio
   d) transmission losses to noise

9. In selecting a satellite system, the First determining factor is its
   a) EIRP b) antenna size c) coverage a sea d) antenna gain

10. MEO stands for _____.
    a) Medium earth orbit
    b) Media earth orbit
    b) Mass earth orbit
    d) None of the above

11. Which of the following technique is suitable for digital transmission?
    a) TDMA b) FDMA c) CDMA d) Both a and b

P.T.O →

12. The point close to earth is called _____.
a) Apogee b) Perigee c) Longitude d) Latitude

13. As the height of a satellite orbit gets lower, the speed of the satellite _____.
a) increases b) decreases c) remains the same d) None of the above

14. Its function assures the overall system performance and accuracy
a) Control segment b) Space segment c) User segment d) All of these

15. Satellite that provide services within a single country
a) Domsat b) Comsat c) Regional d) Global

PART B - (2 × 5 = 10 Marks)
[Answer any TWO questions out of FIVE.]

16. Write short notes on Geo- Stationary Satellite.
17. Explain briefly about Cable Signal Processing.
18. Write the Merits of Digital TV Receiver.
19. Explain briefly about DTH LNB.
20. Write short notes on Receiver Installation.

PART C – (5 × 10 = 50 Marks)
[Answer ALL questions]

21. (a) Explain in detail about Satellite Communication System.
(Or)
(b) Write about Domestic Broadcasting Systems.

22. (a) Write in detail about Cable Signal Distribution.
(Or)
(b) Write about Digital TV Receiver.

23. (a) Explain in detail about DTH Antenna.
(Or)
(b) Draw the block diagram and explain DTH Receiver.

24. (a) Explain in detail about the DTH Receiver.
(Or)
(b) Describe in detail about Need of Telephone Jack.

25. (a) Explain in detail about Dish Antenna Connection Procedures.
(Or)
(b) Describe in detail about Reception of DD Direct Plus.

Subject Incharge

Head of the Department

GOVT. ARTS & SCIENCE COLLEGE FOR WOMEN, BARGUR
DEPT. OF ELECTRONICS & COMMUNICATION
CYCLE TEST - I, SEPTEMBER - 2021
SUB: EMBEDDED SYSTEMS

DATE: 28/09/2021, FN
CLASS: II M.Sc [E&C]

MAXIMUM: 50 MARKS
TIME: 2 HOURS
[10.00Pm to 12.00Pm]

PART - A

Answer ALL Questions: MARKS: 5X1=5

Choose the Correct answers for the following questions.

1. The internal RAM memory of the 8051 is
(a) 32 bytes (b) 64 Bytes (c) 128 bytes (d) None

2. The 8051 is a ____ bit MicroController.
(a) 64 (b) 32 (c) 16 (d) 8

3. The 8051 has ____ 16-bit counter/timers
(a) One (b) Two (c) Three (d) Four

4. How many mathematical flags are available in 8051 MicroController?
(a) 3 (b) 4 (c) 5 (d) 6

5. The MicroControllers are used in ____
(a) Computers, Laptops, Televisions (b) Microwave owens
(c) Printers, Refrigerators (d) All of the above

PART - B MARKS: 3X5 = 15

Answer any THREE Questions out of Six questions

6. Write briefly about MicroControllers and Embedded processors.

[P.T.O]

7. Write short notes on 8051 Microcontroller features.

8. Define interrupt. Explain briefly about Interrupt logic.

9. Explain briefly about 8051 flag bits and the PSW register

10. Write short notes on Register banks in

11. Draw neat diagram and explain pin Signals on 8051.

PART - C MARKS: 3x10=3

Answer ALL Questions:

12. Describe in detail about overview of the 8051 family.

13. Explain in detail about Architecture 8051 Microcontroller.

14. Discuss about Addressing Modes and its types.

R. Anuradha
28/9/21
Staff Signature

(15)

GOVERNMENT ARTS & SCIENCE COLLEGE FOR WOMEN, BARUGUR – 635104

DEPARTMENT OF ELECTRONICS & COMMUNICATION

MODEL EXAMINATION – NOV / DEC 2021

SUB: OPTICAL FIBER COMMUNICATION – 19PEL07

Date : 30 /11/2021 Maximum : 75 Marks

Class : II M.Sc (E&C) Time : 3 Hours

PART A – (15 × 1 = 15 Marks)

Answer all questions

Choose the correct answers for the following questions.

1. Which of the following can be used as source to fiber optics?
   (a) LED (b) LCD (c) LASER (d) Both (a) and (c)

2. In the structure of fiber optic cable the refractive index of core is always _____the refractive index of cladding.
   a) Less than b) Equal to c) Greater than d) None of the above

3. How does the refractive index vary in graded index fiber?
   (a) tangentially (b) radially (c) longitudinally (d) transversely

4. The macroscopic bending losses show an exponential increase due to _____ in radius of curvature.
   a) Increase b) Decrease c) Stability d) None of the above

5. Which among the following is/are responsible for generating attenuation of an optical power in fiber?
   a) Absorption b) Scattering c) Waveguide effect d) All of the above

6. Which kind of dispersion phenomenon gives rise to pulse spreading in single mode fibers?
   a) Intramodal b) Intermodal c) Material d) Group Velocity

7. In Lambertian output pattern of LED the source is _____ bright from all directions.
   a) Less b) Equally c) More d) Unpredictably

8. A permanent joint formed between two different optical fibers in the field is known as a ____
   a) Fiber splice b) Fiber connector c) Fiber attenuator d) Fiber dispersion

9. When considering source – to – fiber coupling efficiencies the _____ is an important parameter than total output power
   a) Mode b) Radiance of an optical source c) Coupler d) Diameter

10. SONET stands for _____
a) synchronous optical network b) synchronous operational network
c) stream optical network d) shell operational network

11. Which optical devices are adopted or applicable for routing signals from one waveguide to another?
a) Optical Combiner b) Optical Splitter c) Optical Coupler d) None of the above

12. The term power budgeting in optical fiber communication refers to
a) the cost of cables, connectors, equipment, and installation
b) the loss of power due to defective components
c) the total power available minus the attenuation losses
d) the comparative costs of fiber and copper installations

13. _____ is an analog multiplexing technique to combine optical signals.
a) FDM b) TDM c) WDM d) CDM

14. Which of the following is not type of the network topology?
a) Star b) Ring c) Bus d) Stub

15. The more advantages optical amplifier is _____
a) Fiber amplifier b) Semiconductor amplifier c) Repeaters d) Mode hooping amplifier

PART B - (2 × 5 = 10 Marks)

Answer any TWO questions out of FIVE.

16. Write short notes on Maxwell's equation.
17. Explain briefly about Mode Coupling.
18. Discuss about the fiber end face preparation.
19. Write a note on junction network application.
20. What is photonic switching? Explain its operation.

PART C – (5 × 10 = 50 Marks)

Answer ALL questions.

21. (a) Explain in detail about optical fiber types. (Or)
(b) Discuss about the mode theory for a circular waveguide.
22. (a) What is meant by scattering loss? How it can be reduced? (Or)
(b) Explain in detail about signal distortion in optical waveguides.
23. (a) Describe in detail about source output pattern in fibers. (Or)
(b) Explain in detail about optical fiber connectors.
24. (a) Discuss about local access networks used in telecommunication. (Or)
(b) Explain in detail about industrial applications of optical fiber.
25. (a) Explain in detail about WDM with neat sketch. (Or)
(b) Describe in detail about basic applications of optical amplifier and its gain.

_____

Government Arts and Science College for Women, Bargur -35104
Department of Electronics and Communication
Model Examination - February 2022
CORE III - INDUSTRIAL ELECTRONICS-21PEL03

Class: I.M.SC (E &C)
Date: 09/02/2022

Maximum marks:75
Time: 3 hours

PART A [15x1=15]
[Answer ALL questions]

1. A thyristor is basically
a). PNPN device b). A combination of diac and triac c). A set of SCRs
d). A set of SCR, diac and a triac
2. Which semiconductor power device out of the following, is not a current triggering device?
(a). Thyristor (b). Triac (c). G.T.O (d). MOSFET
3. Which of the following device incorporates a terminal for synchronizing purposes?
(a). Diac (b). Triac (c). SUS (d). None of the above
4. The AC voltage controllers are used in _____ applications.
(a) power generation (b) electric heating c) conveyor belt motion d) power transmission
5. A single-phase half wave voltage controller consists of
a) one SCR is parallel with one diode b) one SCR is anti parallel with one diode
c) two SCRs in parallel d) two SCRs in anti parallel
6. AC voltage controllers convert
a) fixed ac to fixed dc b) variable ac to variable dc c) fixed ac to variable ac
d) variable ac to fixed ac
7. The class A commutation or load commutation is possible in case of
a) dc circuits only b) ac circuits only c) both DC and AC circuits
d) none of the above mentioned
8. _____ commutation technique is commonly employed in series inverters.
a) line b) load c) forced d) external-pulse
9. The thyristor turn-off requires that the anode current
a) falls below the holding current b) falls below the latching current
c) rises above the holding current d) rises above the latching current
10. In the _____ type of chopper, two stage conversions takes place.
a) AC-DC b) AC link c) DC link d) None of the mentioned
11. Choppers converter
a) AC to DC b) DC to AC c) DC to DC d) AC to AC

12. Which device can be used in a chopper circuit?

a) BJT b) MOSFET c) GTO d) All of the mentioned

13. ..... is preferred for automatic drives

a). Synchronous motors b). Word Leonard controlled DC motors

c). None of the above d). Any of the above

14. The load cycle for a motor driving a power press will be .....

a). Variable load b). Continuous c). Continuous but periodical

d). Intermittent and variable load

15. By the use of which of the following DC can be obtained from AC?

a). Silicon diodes b). Mercury arc rectifier c). Motor generator set

d). Any of the above

PART B [2x5=10]

[Answer any TWO out of FIVE]

16. Write about Construction, Operation Characteristics of TRIAC.
17. Explain about Principle of Phase Control.
18. Explain in detail about Natural Commutation & Forced Commutation
19. Write about Switching Mode Regulators
20. Explain about Single Phase Semiconductor Drivers

PART C [5x10=50]

[ALL questions]

21. (a). Explain about Construction, Operation Characteristics and Applications of SCR [OR]
(b). Write about Single-Phase Series Converters. Three Phase Half Wave Converters

22. a). Explain about Single Phase Bidirectional Controllers with Resister Loads. **[OR]**
(b). Explain about Cyclo converters

23. (a). Write short notes on Complimentary Commutation & External Pulse Commutation [OR]
(b). Write about Load Side Commutation & Line Side Commutation

24. (a). Write about Principle of Step –and Down Operation **[OR]**
(b). Explain about Solid State Relays

25. (a). Explain in detail about Single Phase Full Converter & Single-Phase Dual Converter Drivers **[OR]**
(b). Explain (i). Stator Voltage Control (ii). Rotor Voltage Controller (iii) Rotor Voltage Control

GOVT. ARTS & SCIENCE COLLEGE FOR WOMEN,
BARUGUR - 635 104
DEPT. OF ELECTRONICS & COMMUNICATION
CYCLE TEST - I - APRIL 2022
SUB: NETWORK COMMUNICATION & SECURITY

CLASS : III B.SC [E&C] MAXIMUM : 50 MARKS
DATE : 25/04/2022, AN TIME : 2 HOURS
[1.00 PM to 3.00PM]

PART - A MARKS: 5X1 = 5
ANSWER ALL QUESTIONS
Choose the correct answers for the following question

1. In the _____ transmission mode, each station can transmit, but not at the same time.
(a) Simplex (b) half-duplex (c) full duplex (d) None

2. In long distance data transmission system, the most preferable mode of communication is
(a) Serial transmission (b) Parallel transmission
(c) Either serial or parallel (d) Synchronous transmit

3. What is the meaning of MODEM?
(a) Modern electronic Machine (b) Modulator and demodulator
(c) Modern development Machine (d) Module and code

4. physical or logical arrangement of network is _____.
(a) Topology (b) Routing (c) Networking (d) Control

P.T.O. →

5. Which network topology requires a Central Controller or hub?

(a) Star (b) Mesh (c) Ring (d) Bus

PART - B MARKS: 3X5 = 15

Answer any THREE questions out of Six questions

6. Write a note on Baud Rate.
7. Explain briefly about Serial Communication.
8. Write Short notes on Analog Signal digital Transmission.
9. Write a note on Star topology
10. Explain about Basics of switching.
11. Discuss about hybrid topology.

PART - C MARKS: 3X10 = 30

Answer ALL questions.

12. Describe in detail about Multiplexing and demultiplexing and also its types.
13. Explain in detail about Simplex, half duplex and full duplex data transmission modes.
14. Discuss about topology and its types with suitable diagrams.

GOVT. ARTS & SCIENCE COLLEGE FOR WOMEN,
BARUGUR - 635104
DEPT OF ELECTRONICS & COMMUNICATION
CYCLE TEST - II - MAY 2022
SUB: NETWORK COMMUNICATION & SECURITY

CLASS : III B.Sc [E&C] MAXIMUM : 50 MARKS
DATE : 16/05/2022, AN TIME : 2 HOURS
[1.00PM to 3.00PM]

PART - A MARKS: 5X1 = 5

Answer ALL Questions:

Choose the Correct answers for the following Questions:

1. The OSI model is a ____ Layer model for the design of network systems.
(a) 2 (b) 5 (c) 7 (d) 8

2. OSI is an acronym for ____.
(a) Open Systems InterConnection (b) Open sessions Input
(c) Open segment Input (d) Open sessions Implement

3. The ____ Layer is the topmost layer in the OSI model.
(a) physical (b) Transport (c) Session (d) Application

4. In SLIP/PPP, the connection is called ____.
(a) dial left (b) dial right (c) dial up (d) did down

5. ____ is responsible for setting up a connection between a user and the ISP.
(a) NCP (b) PAP (c) LCP (d) SLIP

— P.T.O —>

PART - B MARKS: 3×5 = 15

Answer any THREE Questions out of 6 Questions:

6. Explain briefly about the different layers in the OSI model.
7. Write about OSI model layered Organization.
8. Explain the role of network layer in the OSI model.
9. What is a Leased line? What purpose does it serve
10. Discuss the requirements for DSL
11. What is RS-232? Explain its pin Configuration

PART - C MARKS: 3×10 = 30

Answer ALL Questions:

12. Explain in detail about the functions of the OSI Model layers.
13. Discuss the concepts of DTE & DCE interface
14. Explain the typical dial-up connection between a home user and an ISP.

GOVERNMENT ARTS & SCIENCE COLLEGE FOR WOMEN, BARUGUR – 635 104.

DEPARTMENT OF ELECTRONICS & COMMUNICATION

MODEL EXAMINATION – JUN 2022

SUB: PC HARDWARE NETWORKING AND TROUBLESHOOTING – 19UEL07

Date : 06-06-2022 Maximum : 75 Marks

Class : III B.Sc (E&C) Time : 3 Hours (10.00am-1.00pm)

PART A – (15 × 1 = 15 Marks)

Answer all questions

Choose the correct answers for the following questions.

1. The main circuit board in the computer system unit is also called _____.
   a) Chipboard b) ROM c) Motherboard d) Flashboard
2. Name the processor which helps in floating point calculations.
   a) Microprocessor b) Microcontroller c) Coprocessor d) Controller
3. _____ Circuit keeps the computer time/date up-to-date.
   a) Motherboard b) RTC c) RAM d) Coprocessor
4. BIOS stands for _____.
   a) Bias In Out System b) Basic Input Output Stack
   c) Based in on stack d) Basic Input Output System
5. The memory module is a set of _____ chip on a single plug-in circuit board
   a) RAM b) ROM c) EPROM d) PROM
6. POST stands for _____.
   a) Power Out System Time b) Power On Self Test
   c) Pin On System Test d) Pack of Stack Test
7. The most common input devices include_____.
   a) Monitor & keyboard b)Monitor & mouse c) Mouse & keyboard d) Printer & mouse
8. _____can be used most efficiently with maximum comfort & minimum risk of any injury.
   a) Mouse b) Keyboard Ergonomic c) Joy stick d) Printer
9. Hand-held device which is used to pick options that are displayed on a computer screen is known as_
   a) Keyboard b) Mouse c) Joystick d) Stylus Pen
10. Data are written and read by _____ in disk platters.
    a) read/write heads b) Memory c) Spindle Motor d) Spindle
11. A hard disk is divided into tracks which are further subdivided into _____.
    a) Clusters b) Sectors c) Vectors d) Heads
12. Which is an Output device?
    a) Scanner b) Keyboard c) Joystick d) Printer

13. _____ are a set of rules governing exchange of information in an easy, reliable and secure way.

a) Network Protocols b) Nodes c) Links c) Routers

14. A virus is a _____.

a) Software b) Cell c) Hardware d) OS

15. It is a computer software used to identify and remove computer viruses

a) Worm b) Trojan horses c) Bomb d) Antivirus

PART B - (2 × 5 = 10 Marks)

Answer any TWO questions out of FIVE.

16. Write short note on Study of latest Motherboards.
17. Write about the Memory Modules.
18. Explain briefly about mouse connection.
19. Write short note on storage capacity of HDD.
20. Explain briefly about Preparation for Network Installation.

PART C – (5 × 10 = 50 Marks)

Answer ALL questions.

21. (a) Describe in detail about Motherboard Installation.

(Or)

(b) Write in detail about support circuits on motherboard.

22. (a) Explain in detail about Cache Memory and its types.

(Or)

(b) Explain about BIOS functions.

23. (a) Explain in detail about the keyboard organization and trouble shooting.

(Or)

(b) Discuss about Mouse types.

24. (a) Write in detail about the Hard disk drive working and installation.

(Or)

(b) Discuss about the printer types.

25. (a) Explain in detail about the Virus and Antivirus.

(Or)

(b) Describe about the Sharing Computer and sharing Printer.

Subject Incharge

Head of the Department

GOVERNMENT ARTS AND SCIENCE COLLEGE FOR WOMEN, BARGUR
DEPARTMENT OF COMPUTER SCIENCE
CYCLIC TEST-I APRIL 2022

Class: I M.A (ENGLISH), I MSC (E&C)
Subject: EDC: E-COMMERCE

Marks : 50
Time : 2 hours

Section-A (Answer ALL the questions) 10*1=10

1. E-commerce stands for_____.
a.electrical commerce b.electronic commerce c.entertainment commerce d.electro chemical commerce
2. Which of the following is part of the main types for e_commerce
a.B2B b. B2C c. C2B d. ALL of the above
3. _____is not a function of e-commerce
a.warehouse b. finance c. marketing d. none of the above
4. _____is a system of interconnected electronic components or circuits.
a.market places b. meta markets c. electronic markets d. elctronic networks
5. Which of the following is type fastest media of data transfer.
a. co-axial cable b. untwisted wire c. telephone lines d. fiber optic
6. The methods of payment system for online consumers
a. electronic cash b. credit/debit c. electronic checks d. All of the above
7. The best product to sell in B2C e-commerce are.
a. small products b. digital products c. specially products d. fresh products
8. Which of the following is not a horizontal portal.
a. AOL b. yahoo c. sailnet d. MSN
9. _____is an early form of e_commerce
a. SCM b. EDI c. Both of these d.none of these
10. World wide web (www) was introduced in the year of .
a. 1994 b. 1996 c. 1992 d. 1990

Section-B (Answer TWO the questions) 2*5=10

11. Explain about electronic commerce framework.
12. Discuss about components of the I-Way.
13. Write a note on WWW as the architecture

Section-C (Answer any THREE questions) 3*10=30

14. Explain briefly the anatomy of E_commerce.
15. Explain E-commerce consumer applications.
16. Describe architectural framework for electronic commerce.
17. Discuss about mercantile process models.

Subject Incharge

Head of the Department

GOVERNMENT ARTS AND SCIENCE COLLEGE FOR WOMEN, BARGUR

DEPARTMENT OF COMPUTER SCIENCE

CYCLIC TEST II-MAY 2022

CLASS: I MA(ENGLISH) & I MSC (E&C)

SUBJECT: EDC:E-commerce

MAX. MARKS: 50

Time: 2 hrs

PART-A (Answer all the questions) 10*1=10 marks

1. E-Checks are.

a) prepaid b)postpaid c) Both prepaid and postpaid d) none of the above

2. Digital signature is a

a)digital id send as an attachment to web/e mail/message b) is used for verifying the attachments send using web c) both a and b d) none of the above

3. Which one of the component of cybercash payment system

a) cc user software b) cc merchant software c) cc server software d) all of the above

4. The presence of _____make the smart card smart

a)Memory b) Microchip c) E-cash d) None of the above

5. which one is the third party payment providers who offer digital wallets for E-merchants

a) oxicash b) pay mate c)pay pass d) All of the above

6. Which one is not a encryption technique?

a) RSA b) DES c) AES d)None of the above

7. Which one is not used security mechanisms?

a) Encryption b) Cryptography c)Wallets d) Digital signature

8. Secret key is used for

a) public key cryptography b) private key cryptography c) Asymmetric key cryptography d)none of the above

9. The protocol which the file transfer between computers is

a) TCP/IP b)FTP c) HTTP d) SOA

10. Which one is not an offline payment mode

a) cash on delivery b) cash before delivery c)demand drafts d) e-cheque

PART-B (Answer any TWO questions) 2*5=10 marks

11. Explain About smart card and credit card based electronic payment systems

12. Write note on risk and electronic payment systems

14. Explain EDI applications in business

PART-C (Answer any THREE questions) 3*10=30 marks

14. Explain about types of electronic payment systems.

15. Discuss about Digital token based electronic payment systems..

16. Describe Electronic data interchange.

17. Explain standardization and EDI.

SUBJECT INCHARGE

HEAD OF THE DEPARTMENT

GOVERNMENT ARTS & SCIENCE COLLEGE FOR WOMEN, BARUGUR – 635 104.

DEPARTMENT OF ELECTRONICS & COMMUNICATION

MODEL EXAMINATION – JUNE 2022

SUB: ANALOG AND DIGITAL COMMUNICATION SYSTEM – 19PEL05

Date: 07-06-2022
Class: I M.Sc (E&C)

Maximum: 75 Marks
Time: 3 Hours

PART A – (15 × 1 = 15 Marks)
Answer all questions

Choose the correct answers for the following questions.

1. Space wave propagation reflects the wave with frequencies
(a) Below 24 Hz (b) 2 to 30 MHz (c) Above 30 GHz (d) Above 30 MHz

2. Frequencies in the UHF range normally propagate by means of _____.
(a) Ground waves (b) sky waves (c) surface waves (d) space waves

3. What is the input impedance of Half wave folded dipole?
(a) 73% (b) 292% (c) 146% (d) 36.5%

4. For a phase modulated signal, the frequency deviation is proportional to _____
(a) Frequency only (b) amplitude only (c) only width (d) phase only

5. The modulation index of an AM wave is changed from 0 to 1. The transmitted power is
a) Unchanged b) halved c) doubled d) increased by 50 percent

6. One of the following is an indirect way of generating FM. This is the _____.
a) Reactance FET modulator b) varactor diode modulator c) Armstrong modulator
d) Reactance bipolar transistor modulator

7. Indicate which of the following systems digital _____ is.
a) PPM b) PCM c) PWM d) PAM

8. Signals which are obtained by encoding each quantized signal into digital word is called as _____ signal. (a) PAM (b) PCM (c) FM (d) Sampling and Quantization

9. In which modulation technique as noise interference is high
(a) PAM (b) PFM (c) PWM (d) PPM

10. Matched filter may be optimally used only for _____.
a) Gaussian noise b) transit time noise c) Flicker d) None of the above

11. Coherent modulation requires _____ level of synchronization.
(a) One (b) two (c) three (d) four

12. Eye-pattern is utilized for the study of _____.
a) Bit error rate b) error vector c) Inter-symbol interferences d) quantization noises

13. TV transmission, sound signal is _____ modulated.
(a) Phase (b) pulse (c) frequency (d) amplitude

14. In television, 4:3 represents the _____.
(a) Interlace ratio (b) aspect ratio (c) deflection ratio (d) diagonals ratio

15. Which one of following is monochrome TV system?
(a) 525 line (b) NTSC (c) SECAM (d) 829 line

PART B - (2 × 5 = 10 Marks)

Answer any TWO questions out of FIVE.

16. Explain the radiation pattern of antennas.
17. Explain the generation of FM using direct method.
18. Differentiate between pulse amplitude and pulse frequency modulation.
19. Write short notes on eye pattern diagram.
20. Explain the horizontal scanning frequency in PAL system.

PART C – (5 × 10 = 50 Marks)

Answer ALL questions.

21. (a) Explain about the concept of sky wave propagation and maximum usable frequency.

(Or)

(b) Describe in detail about resonant and non resonant Antennas

22. (a) Illustrate the frequency spectrum of AM wave.

(Or)

(b) Draw the circuit diagram of grid modulated class C-amplifier and explain it.

23. (a) With a neat diagram, explain the generation of Pulse Amplitude Modulation.

(Or)

(b) Discuss about the Pulse code modulation techniques.

24. (a) Explain the matched filter and derive an expression of matched filter.

(Or)

(b) Classify the types of error control coding method.

25. (a) Describe in detail the working of synchronizing pulses with a neat diagram.

(Or)

(b) With a neat diagram, explain in detail the working of VHF/UHF tuner circuit.

(4 pages)

S.No. 2155

19UEL04

(For the candidates admitted from 2019-2020 onwards)

B.Sc. DEGREE EXAMINATION, JUNE 2022

Fourth Semester

Electronics and Communication

8085 MICROPROCESSOR AND INTERFACING

Time : Three hours Maximum : 75 marks

PART A — (15 × 1 = 15 marks)

Answer ALL questions

1. At the end of _____ operation, the PC points to the next instruction.
   (a) fetch (b) decode
   (c) execute (d) accumulate

2. _____ of the following part of the microprocessor is close related to register
   (a) Processor (b) CPU
   (c) ALU (d) Memory

3. _____ is an example instruction of adding register to accumulator.
   (a) ADC K (b) ADD K
   (c) ADI K (d) ADI 55 K

4. _____ stack is used in 8085 microprocessor
   (a) FIFO (b) FILO
   (c) LIFO (d) LILO

5. BP stands for _____
   (a) Stack pointer (b) Segment pointer
   (c) Status pointer (d) State pointer

6. _____ of the following is not a valid instruction type.
   (a) Zero operand
   (b) Single operand
   (c) Two operand
   (d) None of the mentioned

7. 8085 have _____ flags
   (a) 4 (b) 5
   (c) 6 (d) 9

8. Which of the following is not an addressing mode of 8051?
   (a) register instructions
   (b) register specific instructions
   (c) indexed addressing
   (d) none

9. The instruction, Add #45,R1 does _____
   (a) Adds the value of 45 to the address of R1 and stores 45 in that address
   (b) Adds 45 to the value of R1 and stores it in R1
   (c) Finds the memory location 45 and adds that content to that of R1
   (d) None of the mentioned

10. When large delays are required, then to serve the purpose
   (a) one or more count registers can be used
   (b) one or more shift registers can be used
   (c) one or more pointer registers can be used
   (d) one or more index registers can be used

11. Port C of 8255 can function independently as _____
   (a) input port
   (b) output port
   (c) either input or output ports
   (d) both input and output ports

12. _____ is correct about the BSR mode from below
   (a) In BSR mode, only the individual bits of PORT A can be programmed
   (b) In BSR mode, only the individual bits of PORT B can be programmed
   (c) In BSR mode, only the individual bits of PORT C can be programmed
   (d) None of the mentioned

13. The example of output device is _____
   (a) CRT display
   (b) 7-segment display
   (c) Printer
   (d) All of the mentioned

14. In ADC0808/0809 IC ———— pin is used to select Step Size.

(a) Vref

(b) Vin

(c) Vref/2 and Vin

(d) None

15. ———— of the following statements are true about DAC0808.

(a) parallel digital data to analog data conversion

(b) it has current as an output

(c) all of the mentioned

(d) none of the mentioned

PART B — (2 × 5 = 10 marks)

Answer any TWO questions out of Five.

16. Write a short note on signals on 8085.

17. Define logical instruction set.

18. List out the different types of addressing modes.

19. Write short note on RSR mode.

20. What is an LCD?

PART C — (5 × 10 = 50 marks)

Answer ALL questions.

21. (a) Give a brief account on architecture of 8085.

Or

(b) Give a brief study of RWM 2764.

22. (a) Explain in detail about the branching instructions.

Or

(b) Describe the working of stack with example.

23. (a) Explain about instruction format in detail.

Or

(b) Explain the timing diagram of IN and OUT instruction.

24. (a) Write a simple time delay program and explain.

Or

(b) Define about I/O mode.

25. (a) Explain the interfacing 8085 with LED.

Or

(b) Discuss the principle of DAC 0800 interfacing.

———————

(6 pages)

S.No. 2579

19UELE01

(For the candidates admitted from 2019-2020 onwards)

B.Sc. DEGREE EXAMINATION, JANUARY 2022.

Fifth Semester

Electronics and Communication

Elective – 8051 MICROCONTROLLER AND INTERFACING

Time : Three hours Maximum : 75 marks

PART A — (15 × 1 = 15 marks)

Answer ALL questions.

1. The internal flash memory of the Intel 8051 is _____

(a) 32 bytes (b) 64KB

(c) 128 bytes (d) 4KB

2. The Timer 1 is a _____ bit Timer

(a) 8 (b) 4

(c) 10 (d) 16

3. Stack operation is _____ and _____

(a) Push and Pop

(b) UP and Down

(c) Increase and decrease

(d) High and Low

4. Which one of the following is bit addressable

(a) A (b) B

(c) R4 (d) PSW

5. When the 8051 is reset and the EA line is HIGH, the program counter points to the first program instruction in the

(a) Internal code memory

(b) External memory

(c) Internal data memory.

(d) External data memory

6. The contents of the accumulator after this operation

MOV A,#0FH

XRL A,#F0H

(a) 11010111 (b) 11111111

(c) 00001000 (d) 00000000

0000 1111
1111 0000
1111 1111

7. In LCD interfacing _____ bit is used select the command and data register.

(a) RW (b) RS

(c) CR (d) DC

8. A resistor is connected between +Vcc and Port pin then that resistor is called

(a) Supply Resistor

(b) Shunt resistor

(c) Terminal Resistor

(d) Pull-up Resistor

9. For Common Anode Seven Segment Display; _____ pin is Common

(a) Gnd (b) Base

(c) +Vcc (d) Dot

10. An n-bit Analog to Digital Converter is required to convert the analog input in the range 0-5V to an accuracy of 19mV. Then the value of n should be

(a) 4-bit (b) 8-bit

(c) 10-bit (d) 16-bit

11. Find out the resolution of 8 bit DAC/ADC?

(a) 562 (b) 625

(c) 256 (d) 265

12. The Stepper Motor, Step-Angle is 1.8 then how many steps are required to complete one full rotation.

(a) 256 (b) 250

(c) 200 (d) 100

13. RAM is also known as

(a) RWM (b) MBR

(c) MAR (d) ROM

14. Which one of the following is non volatile in nature?

(a) ROM (b) EROM

(c) PROM (d) RAM

15. Static RAM employs

(a) BJT or MOSFET (b) FET or JFET

(c) Capacitor or BJT (d) BJT or MOS

PART B — (2 × 5 = 10 marks)

Answer any TWO questions.

16. Enumerate the hardware features of Intel 8051.

17. Illustrate the ROTATE Operation with neat Diagram.

18. Draw and Explain the LED Interfacing Concept.

19. Explain the DC Motor interfacing concept in detail.

20. Mention the details of Static RWM 6264.

PART C — (5 × 10 = 50 marks)

Answer ALL questions.

21. (a) Draw and discuss the architecture of Intel 8051 Microcontroller.

Or

(b) What is interrupt? Explain the interrupt procedure of Intel8051 in detail.

22. (a) Illustrate any five Logical Instructions with relevant block operations.

Or

(b) Categorize the various addressing modes of Intel 8051 Microcontroller with suitable instructions.

23. (a) Explain the interfacing concept of Matrix Keyboard with neat Circuit diagram.

Or

(b) Mention the 16×2 LCD Interfacing Concepts in detail with suitable Code.

(7 pages)

S.No. 132

19PEL08

(For the candidates admitted from 2019–2020 onwards)

M.Sc. DEGREE EXAMINATION, JANUARY 2022

Third Semester

Electronics and Communication

EMBEDDED SYSTEM

Time : Three hours Maximum : 75 marks

PART A — (15 × 1 = 15 marks)

Answer ALL questions.

1. A micro controller must have _____

(a) RAM, ROM, CPU.

(b) RAM, ROM, CPU, I/O ports and Times

(c) RAM, ROM, Timers, CPU

(d) Timer, CPU, I/O ports.

2. In the 8051 micro controller, how many 16 bit register are available.

(a) 2 (b) 3

(c) 1 (d) 0

3. Which Operator is the most important while assigning any instruction as register indirect instruction

24. (a) * (b) #

(c) @ (d) &

4. The RPO status register bit has the potential to determine the effective address of _____

(a) Immediate addressing mode

(b) Indirect addressing mode

(c) Direct addressing mode

(d) Indexed addressing mode

25. 5. In PIC micro controller, Instruction set consists of _____ instruction.

(a) 45 (b) 35

(c) 65 (d) 38

6. The PCLATH stands for _____

(a) Program Connector Latch

(b) Program Counter Latch

(c) Program Count Latch

(d) Project Counter Latch

7. How many Timers are available in PIC microcontroller

(a) Timer 0, Timer 1

(b) Timer 0, Timer 1, Timer 2

(c) Timer 1, Timer 2

(d) Timer 1, Timer 2, Timer 3

8. _____ will automatically cleaned when an interrupt occurs, suspending further interrupts for the duration of interrupt service routine execution.

(a) GIE (b) TIE

(c) INTCONI (d) TIMERO

9. Timer 1 is a _____ bit Counter that together with a counter / Timer module.

(a) 8 bit (b) 4 bit

(c) 32 bit (d) 16 bit

10. The SSP stands for

(a) Synchronous System Port

(b) Series Synchronous Port

(c) Synchronous Serial Port

(d) Serial Synchronous Port

11. The Temperature sensor is used to interface with pic micro controller is

(a) LM35 (b) ML75

(c) LM75 (d) LM05

12. EEPROM is stands for

(a) Electrically erasable programmable read only memory

(b) Erasable electrically programmable read only memory.

(c) Electrically enabled programmable read only memory.

(d) Edited electrically programmable read only memory.

13. Transit a byte of data serially from Txpin, the byte is written to the _____ register.

(a) RCREG (b) TXREG

(c) W register (d) PSW

14. In band rate selection, when the BRGH =1 is Configured for _____

(a) Average speed band rate

(b) High speed band rate

(c) Low speed band rate

(d) Medium speed band rate

15. The _____ flag will clear itself when the byte read from RCREG leaves the receive circuits of FIFO.

(a) RCIF (b) RCREG

(c) TXREG (d) W register

PART B — (2 × 5 = 10 marks)

Answer any TWO questions.

16. What is meant by register bank and stack register.

17. Explain the concept of pipelining in PIC micro controller.

18. Discuss about the function involved in Interrupt Service Routine.

19. Explain the function of serial EEPROM.

20. Write a simple program to interfacing LED with neat diagram.

PART C — (5 × 10 = 50 marks)

Answer ALL questions.

21. (a) Elaborate about the Various Interrupts in 8051.

Or

(b) Explain about Various Addressing modes in 8051 with examples.

22. (a) Explain the hardware Architerture of PIC microcontroller in detail.

Or

(b) Explain about the various register and its function in PIC micro controller.

23. (a) Explain about compare capture mode of Timer1 in detail.

Or

(b) Discuss about the external interrupt in PIC micro controller.

24. (a) Explain about serial peripheral Interface with neat diagram.

Or

(b) How does Input / Output port expansion are classified in PIC micro controller.

25. (a) Explain about basic hardware setup for NXP-band rate accurany.

Or

(b) Write a program for interfacing LCD with PIC micro Controller.

GOVERNMENT ARTS & SCIENCE COLLEGE FOR WOMEN, BARGUR – 635104
DEPARTMENT OF ELECTRONICS & COMMUNICATION
CYCLE TEST – 1, September 2022
ICs AND THEIR APPLICATIONS

Class: III B.Sc (E&C)
Date:21/9/2022

Total Marks:50
Duration:1.30hrs

PART-A
Answer all questions Marks: 5*1=5

1. Arrange the steps involved in the fabrication of a bipolar transistor in the order of it is carried
   (i) Isolation diffusion
   (ii) Base diffusion
   (iii) Emitter diffusion
   (iv) Epitaxial growth
   (v) Aluminium metallization
   (a) (i),(ii),(iii),(iv) & (v) (b) (iv),(i),(ii),(iii) & (v) (c) (i),(iii),(ii),(iv) & (v)
   (d) (iv),(i),(iii),(ii) & (v)
2. How many gates per chip can be fabricated in MSI
   (a) 12 to 100 gates (b) 100 to 1000 gates (c) More than 10000 gates
   (d) less than 12 gates
3. What is the product of the chemical reaction $SiCl_4 + 2H_2$?
   (a) Si + 4HCl (b) 2 Si + 2HCl (c) Si + HCl (d) SiCl + HCl
4. Identify the cross section of silicon ingot
   (a) Rectangular (b) Circular (c) Square (d) Triangular
5. What is the final step of wafer manufacturing process
   (a) Silicon wafer preparation (b) Oxidation (c) Metallization (d) Epitaxial

PART – B

Answer any 3 questions Marks: 3*5=15

6. Explain the system for growing silicon epitaxial films.
7. Explain the fabrication process of MOSFET
8. Illustrate about oxidation process of IC fabrication technology
9. Write about Ion implantation technique of IC fabrication technology
10. Write about wafer preparation.

PART – C

Answer all questions Marks: 3*10=30

11. Explain the various steps involved in the fabrication of a typical circuit.
12. Describe the fabrication process of FET in detail.
13. Illustrate about the photolithography technique of IC fabrication

GOVT. ARTS & SCIENCE COLLEGE FOR WOMEN,
BARUR - 635 104.
DEPT. OF ELECTRONICS & COMMUNICATION
CYCLE TEST - II, OCTOBER - 2022

SUB : APPLIED ELECTRIC CIRCUITS

CLASS : I B.SC [ERF] MAXIMUM : 50 MARKS

DATE : 19/10/2022, FN TIME : 2 HOURS
[10.00 AM to 12.00 PM]

PART - A MARKS : 5X1 = 5

Answer ALL Questions:

Choose the correct answers for the following questions

1. The thevenin voltage is the ——.
(a) Open Circuit voltage (b) short circuit voltage
(c) Both (a) & (b) (d) parallel voltage

2. A system which follows the superposition principle is known as ——
(a) system (b) Control system (c) linear system
(d) bilateral system.

3. The maximum power is delivered from a source to its load when the load resistance is —— the source resistance
(a) greater than (b) less than (c) equal to (d) decreases

4. The power factor = ?
(a) Sin θ (b) Cos θ (c) tan θ (d) sec θ

5 The formula for time period calculation is ____

(a) $T > \frac{1}{2F}$ (b) $T < \frac{1}{2F}$ (c) $T = \frac{1}{A}$ (d) $T = \frac{1}{F}$

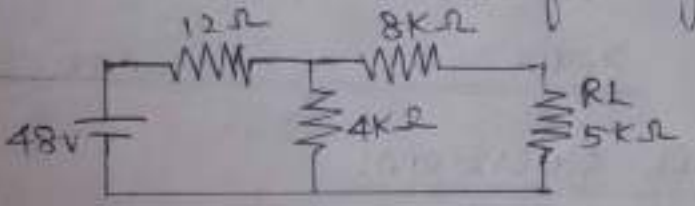
PART - B

MARKS : 3×5 = 15

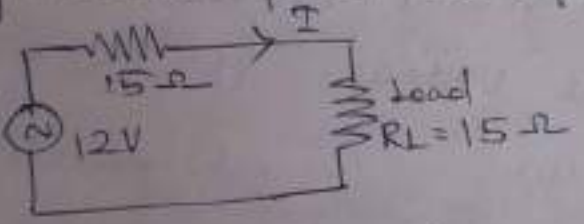
Answer any three questions out of six questions.

6. State and prove superposition theorem

7. Find V_{TH} and R_{TH} in the following circuit diagram.



8. To find out the output power in this circuit using maximum power transfer theorem.



9. F = 69 MHz means findout the time period ?

10. Define the terms cycle and time period and explain its functions.

11. Write a note on frequency measurement.

PART - C

MARKS : 3×10=30

Answer all questions:.

12. State and prove thevenin's theorem.

13 State and explain about the maximum power transfer theorem.

14 Explain the following terms.

(i) peak value
(ii) peak to peak value
(iii) Instantaneous value

GOVERNMENT ARTS & SCIENCE COLLEGE FOR WOMEN, BARUGUR – 635 104

DEPARTMENT OF ELECTRONICS & COMMUNICATION

MODEL EXAMINATION – NOVEMBER 2022

SUB: ELECTRONIC CIRCUITS

Date : /11/2022, FN | Maximum : 75 Marks

Class : II B.Sc (E&C) | Time : 3 Hours

PART A – (15 × 1 = 15 Marks)

Answer all questions

Choose the Correct Answers for the following Questions.

1. The ripple factor of an full wave rectifier is
   a) 0.82 b) 0.482 c) 1.21 d) 2.01

2. _____ is an electronic circuit that provides a stable dc voltage independent of the load current, temperature and ac line voltage variations.
   a) Voltage regulator b) Current regulator c) Rectifier d) Amplifier

3. A rectifier is used to _____
   a) convert ac voltage to dc voltage b) convert dc voltage to ac voltage
   c) both (a) and (b) d) convert voltage to current

4. A triangular waveform can be generated by
   a) integrating a sine waveform b) integrating a square waveform
   c) integrating a spike waveform d) None

5. Addition of another diode capacitor section to have voltage dobler creates a _____
   a) Voltage doubler b) Voltage tripler c) Voltage quadrupler d) None

6. Wave shaping elements are _____
   a) Resistor b) Capacitor d) Diode d) All are Correct

7. The push – pull circuit must use _____ operation.
   a) class A b) class C c) class B d) class AB

8. In a class – B amplifier the current in the output circuit flows for _____
   a) 180° b) 360° c) 45° d) 80°

9. Class AB operation is often used in power amplifier in order to _____
   a) get maximum efficiency b) remove harmonics c) reduce noise d) low efficiency

10. In a Current – shunt feedback amplifier the input resistance _____
    a) increases b) decreases c) constant d) zero

11. The only drawback of using negative feedback in amplifier is _____.
a) low gain b) high gain c) zero gain d) none

12. The value of negative feedback fraction is always _____.
a) equal to 1 b) more than 1 c) less than 1 d) none of the above

13. An astable multivibrator is a _____ multivibrator.
a) triggered b) free running c) sinusoidal d) LC oscillator

14. The sinusoidal oscillator is also called _____.
a) LC oscillator b) Harmoic oscillator c) RC oscillator d) Crystal oscillator

15. The barkhausen criterion for sustained oscillator is given by
a) $A+\beta = 1$ b) $A\beta = 1$ c) $\beta - A = 1$ d) $A\beta = 0$

PART B - (2 × 5 = 10 Marks)

Answer any TWO questions out of FIVE.

16. Discuss about the operation of Bridge rectifier.
17. Explain briefly about the bias stability.
18. Write short note on class B amplifier.
19. Explain about the Effects of Negative feedback on gain and bandwidth.
20. Explain the working of Colpitt oscillator.

PART C – (5 × 10 = 50 Marks)

Answer ALL questions.

21. (a) Describe the working principle of full wave rectifier circuit with suitable diagram.

(Or)

(b) Explain in detail about IC voltage regulators (78XX & 79XX).

22. (a) Write in detail about Clipping and Clamping circuits.

(Or)

(b) Explain briefly about methods of transistor biasing.

23. (a) Explain in detail about Complementary symmetry Push Pull Amplifier.

(Or)

(b) Explain the working of an RC coupled amplifier and its frequency response.

24. (a) Discuss about the basic concepts of feedback.

(Or)

(b) Explain in detail about voltage series type negative feedback connection.

25. (a) Explain the working principle of Crystal oscillator with neat sketch.

(Or)

(b) Describe in detail about the operation of Astable Multivibrator with suitable sketch.

(6 pages)

S.No. 2049

19UELE01

(For the candidates admitted from 2019–2020 onwards)

B.Sc. DEGREE EXAMINATION, DECEMBER 2022

Fifth Semester

Electronics and Communication

Elective : 8051 MICROCONTROLLER AND INTERFACING

Time : Three hours Maximum : 75 marks

PART A — (15 × 1 = 15 marks)

Answer ALL the questions

Choose the correct answer

1. An 8051 microcontroller can have ———— on-chip RAM.
   (a) 64K (b) 4K
   (c) 512 bytes (d) 128 bytes

2. An IDLE mode can be set in 8051 Microcontroller by ————
   (a) TMOD register (b) PCON register
   (c) TCON register (d) SCON register

3. An alternate function of port pin P3.4 in the 8051 Microcontroller is ————
   (a) Timer 0 external input
   (b) Timer 1 external input
   (c) interrupt 0 external input
   (d) interrupt 1 external input

4. Which of the following statement will add the accumulator to R3?
   (a) ADD @R3, A (b) ANL A, R3
   (c) ADD R3, A (d) ADD A,R3

5. What instruction performs compare immediate to indirect and jump if not equal?
   (a) CJNE A, #data, rel
   (b) CJNE Rn, #data, rel
   (c) CJNE @Ri, #data, rel
   (d) CJNE A, data, rel

6. Relate the assembler with any correct terminology given
   (a) Hardware module
   (b) Language
   (c) Programmer tool
   (d) Software tool

7. An ADC works by sampling the value of the input at ————
   (a) exponential intervals
   (b) continuous intervals
   (c) discrete intervals
   (d) determinant intervals

8. A common display device of LED is ————
   (a) Red light pointer
   (b) Multi light pointer
   (c) Seven segment display
   (d) LED TV

9. Identify the command to initialize 16 × 2 LCD for 8-bit mode
   (a) 28H (b) 38H
   (c) 01H (d) 06H

10. What is the resolution of a 10-bit ADC with VrefH = 4V and VrefL = 1V?
    (a) 1.53 mV
    (b) 2.93 mV
    (c) 4.88 mV
    (d) 39.53 mV

11. The rotational speed of a given stepper motor is determined by ————
    (a) Shaft load
    (b) Polarity of stator current
    (c) Step pulse frequency
    (d) Magnitude of stator voltage

12. Which part of the motor confirms that it is a DC motor?
    (a) Commutator (b) Shaft
    (c) Frame (d) Stator

13. Permanent data and instructions storing memory is ————
    (a) RAM chips (b) DRAM chips
    (c) EROM chips (d) Capacitors

14. A 16-bit address bus allows access to a memory of capacity of ————
    (a) 64 kB (b) 64 MB
    (c) 1 GB (d) 4GB

15. For a typical static RAM, the maximum access time is about ————
    (a) 60 us (b) 1 us
    (c) 300 ns (d) 10 ns

[P.T.O.]

PART B — (2 × 5 = 10 marks)

Answer any TWO questions

16. Explain the functions of 8051 TMOD registers.

17. Write about register bank and stack in 8051 Microcontroller.

18. Explain the I/O port programming with the help of LED interfacing.

19. Illustrate the DC motor interfacing with 8051 Microcontroller.

20. Write a short note on RAM refreshing.

PART C — (5 × 10 = 50 marks)

Answer ALL the questions

21. (a) Explain the architecture of an 8051 microcontroller.

Or

(b) Explain the various modes of 8051 timers.

22. (a) Discuss the branching instructions of 8051 in detail.

Or

(b) Write an 8051 assembly language program to find the smallest number in an array of data.

23. (a) Explain how to interface a matrix keyboard with 8051 Microcontroller.

Or

(b) Give the interfacing diagram of an LCD display with 8051 Microcontroller and explain its programming.

24. (a) Draw the circuit and write a program for DAC interface with 8051 MCU.

Or

(b) Explain with a neat diagram of traffic light control system using 8051 Microcontroller.

25. (a) Explain the structure of EPROM memory technology.

Or

(b) Discuss the dynamic RAM in detail.

———————

GOVERNMENT ARTS & SCIENCE COLLEGE FOR WOMEN, BARGUR – 635104
DEPARTMENT OF ELECTRONICS & COMMUNICATION
CYCLE TEST – I, September 2022
INDUSTRIAL AUTOMATION

Class: III B.Sc (E&C)
Date:21/9/2022

Total Marks:50
Duration:1.30hrs

PART-A
Answer all questions Marks: 5*1=5

1. A broken wire appears as a dashed black line with a red X in the middle
   (a) broken (b) functioning (c) unused (d) none
2. What are the datatypes allowed by LabVIEW?
   (a) Integer (b) Boolean (c) String (d) All
3. How many windows are available in LabVIEW
   (a) 1 (b) 2 (c) 3 (d) 4
4. Identify which of the following are entry and exit ports that exchange information between the front panel and block diagram
   (a) Rectangular (b) Terminals (c) Nodes (d) Triangular
5. LabVIEW follows ---------- model for running
   (a) Dataflow (b) Data store (c) Data (d) Storage

PART – B

Answer any 3 questions Marks: 3*5=15

6. Explain about datatypes.
7. Write about Documentation process
8. How will you create a VI? Write about it
9. Write about sub VIs.
10. Describe about dataflow.

PART – C

Answer all questions Marks: 3*10=30

11. Write a note on front panel controls and indicators in LabVIEW.
12. Illustrate about software environment of LabVIEW.
13. Write about block diagram of LabVIEW

GOVERNMENT ARTS & SCIENCE COLLEGE FOR WOMEN, BARGUR – 635104
DEPARTMENT OF ELECTRONICS & COMMUNICATION
CYCLE TEST – II October 2022
ICs AND THEIR APPLICATIONS

Total Marks:50
Duration:1.30hrs

Class: I M.Sc (E&C)
Date:17/10/2022

PART-A
Answer all questions

Marks: 5*1=5

1. Arrange the steps involved in the fabrication of a bipolar transistor in the order of it is carried
   (i) Isolation diffusion
   (ii) Base diffusion
   (iii) Emitter diffusion
   (iv) Epitaxial growth
   (v) Aluminium metallization
   (a) (i),(ii),(iii),(iv) & (v) (b) (iv),(i),(ii),(iii) & (v) (c) (i),(iii),(ii),(iv) & (v)
   (d) (iv),(i),(iii),(ii) & (v)
2. How many gates per chip can be fabricated in MSI
   (a) 12 to 100 gates (b) 100 to 1000 gates (c) More than 10000 gates
   (d) less than 12 gates
3. What is the product of the chemical reaction $Si + 2H_2O$?
   (a) SiO_2 (b) 2 Si (c) Cl (d) SiCl
4. Identify the cross section of silicon ingot
   (a) Rectangular (b) Circular (c) Square (d) Triangular
5. What material is used to create contact among various blocks in metallization technique
   (a) Germanium (b) Wood (c) Alumnium (d) Boron

PART – B

Answer any 3 questions

Marks: 3*5=15

6. Explain epitaxial growth.
7. Explain the fabrication process of MOSFET
8. Illustrate about oxidation process of IC fabrication technology
9. Write about Ion implantation technique of IC fabrication technology
10. Write about metalization.

PART – C

Answer all questions

Marks: 3*10=30

11. Explain about diffusion technique.
12. Describe about silicon wafer preparation.
13. Illustrate about the photolithography technique of IC fabrication

GOVERNMENT ARTS & SCIENCE COLLEGE FOR WOMEN, BARUGUR – 635 104

DEPARTMENT OF ELECTRONICS & COMMUNICATION

MODEL EXAMINATION – NOVEMBER 2022 4 copies

SUB: ELECTIVE – INTERNET OF THINGS

Date : 17/11/2022 Maximum : 75 Marks

Class : II M.Sc (E&C) Time : 3 Hours

PART A – (15 × 1 = 15 Marks)

Answer all questions

Choose the correct answers for the following questions.

1. Who coined the term "Internet of Things"?
   a) John Wright b) Kevin Aston c) Edward Jameson d) George Garton

2. What does CPS stand for?
   a) Cyber Physical System b) Cyclic Physical System
   c) Cyber Physical Sequence d) Computer-Physiological System

3. _____ in the IoT Architecture is the hardware and software gateways that analyze and pre-process the data before transferring it to the cloud.
   a) Data center b) Edge IT c) Gateways d) Data Acquisition

4. In wireless ad-hoc network _____.
   a) access point is not required b) access point is must
   c) nodes are not required d) all nodes are access points

5. Which multiple access technique is used by IEEE 802.11 standard for wireless LAN?
   a) CDMA b) CSMA/CA C) ALOHA d) FDMA

6. Which of the following IEEE standards is followed by the physical and MAC layer protocols in ZigBee?
   a) IEEE 801.15.4 b) IEEE 802.15.4 c) IEEE 803.15.4 d) IEEE 804.15.4

7. _____ are the devices that are able to emit, accept and process data over the network.
   a) Sensors b) Gateways c) Edge IT d) Data Acquisition

8. RFID stands for _____.
   a) Range For Interface Device b) Radio Frequency Interface Device
   c) Radio Frequency Identification d) Range For Interface Device

9. _____ convert electrical energy into mechanical energy.
   a) Microphone b) Sensors c) Battery d) Actuators

10. _____ is an open hardware single-board computer developed by Texas instruments.
    a) Raspberry Pi b) ARM 11 c) Beaglebone Black d) Python

11. Operating systems based on the _____ are used in embedded systems.
a) Unix b) Linux kernel c) Windows d) VxWorks

12. CC32XX device is a _____.
a) 32 bit Microprocessor b) 32-bit ARM Cortex Wireless MCU
c) Wired MCU d) Digital signal processor

13. _____ is one of the big data sources in IOT.
a) Wireless sensor networks b) Actuators c) Processors d) Gateways

14. A sensor network is designed to collect information from a _____ environment.
a) Logical b) Physical c) Logical as well as physical d) None of the above

15. Example of the types of IOT data _____.
a) Automation data b) Status data c) Location data d) All the above

PART B - (2 × 5 = 10 Marks)

Answer any TWO questions out of FIVE.

16. Write short notes on IOT and CPS.
17. Explain briefly about BLE.
18. Discuss about the Embedded devices.
19. Write a note on beaglebone black.
20. Write about challenges in managing IOT data.

PART C – (5 × 10 = 50 Marks)

Answer ALL questions.

21. (a) Explain in detail about the basic Architecture and components of IOT. (Or)
(b) Discuss about the different levels of IOT systems.
22. (a) What is LORA? Explain in detail. (Or)
(b) Explain in detail about Wireless sensor and adhoc networks.
23. (a) Describe in detail about connected sensors and actuators. (Or)
(b) Explain in detail about CC32XX Architecture.
24. (a) Discuss about Embedded Linux. (Or)
(b) Explain in detail about Operating systems for IOT applications.
25. (a) Explain in detail about Data sources and data types in IOT. (Or)
(b) Describe in detail about Data acquisition in sensor Networks.

(6 pages)

S.No. 102 | 21PEL01

(For the candidates admitted from 2021–2022 onwards)

M.Sc. DEGREE EXAMINATION, DECEMBER 2022

First Semester

Electronics and Communication

APPLIED ELECTRONICS

Time : Three hours | Maximum : 75 marks

PART A — [15 × 1 = 15 marks]

Answer ALL questions.

1. Why is there a sudden increase in current in Zener diode?
   (a) Due to the rupture of ionic bonds
   (b) Due to rupture of covalent bonds
   (c) Due to viscosity
   (d) Due to potential difference

2. What is the semiconductor diode used as?
   (a) Oscillator (b) Amplifier
   (c) Rectifier (d) Modulator

3. Varactors made of _____ have higher frequency range of operation compared to silicon fabricated varactor diodes.
   (a) Germanium (b) GaAs
   (c) GaN (d) GaSi

4. For a half wave or full wave rectifier the Peak Inverse Voltage of the rectifier is always
   (a) Greater than the input voltage
   (b) Smaller than the input voltage
   (c) Equal to the input voltage
   (d) Greater for full wave rectifier and smaller for half wave rectifier

5. Bridge rectifier is an alternative for _____
   (a) Full wave rectifier
   (b) Peak rectifier
   (c) Half wave rectifier
   (d) Attenuator

6. The diode in a half wave rectifier has a forward resistance R_f. The voltage is $V_m \sin \omega t$ and the load resistance is R_L. The DC current is given by _____
   (a) $V_m/\sqrt{2}\,R_L$ (b) $V_m/(R_f+R_L)\,\pi$
   (c) $2V_m/\pi$ (d) $V_m/2R_L$

7. The potential difference between the base and the collector V_{cb} in a pnp transistor in saturation region is
   (a) −0.2 V (b) −0.5V
   (c) 0.2 V (d) 0.5 V

8. The correct relation between the transistor parameters α and β are related by _____
   (a) $\beta = 1 - \alpha/\alpha$ (b) $\beta = 1 + \alpha/\alpha$
   (c) $\alpha = \beta + 1/\beta$ (d) $\alpha = \beta/\beta + 1$

9. For the BJT to operate in active mode Collector-base junction must be _____
   (a) Heavily doped
   (b) More reversed bias
   (c) Must be forward bias
   (d) Lightly doped

10. Where does the Q point lie for class B amplifier?
   (a) Active
   (b) Cut off
   (c) Saturation
   (d) Between cut-off/active and active

11. What is the efficiency of Class A amplifiers?
   (a) 30 or less (b) 30 or less
   (c) 100 (d) 75

12. Negative feedback in amplifier _____
   (a) Improves the signal-to-noise ratio at input
   (b) Improves the signal-to-noise ratio at output
   (c) Does not improve the signal-to-noise ratio at I/O
   (d) Reduce Distortion

13. Which of the following oscillator cannot be used in low frequency oscillations?
   (a) Wein bridge oscillators
   (b) RC phase shift oscillators
   (c) Colpitts oscillators
   (d) RC oscillators

14. The gain device in the Hartley oscillator act as a
   (a) Low pass filter (b) High pass filter
   (c) Band pass filter (d) Band rejection filter

15. RC phase shift oscillators contain a minimum of _____ Phase shift network
   (a) 1 (b) 2
   (c) 3 (d) 0

PART B — (2 × 5 = 10 marks)

Answer any TWO questions

16. What is varactor diode and mention any one application?

17. Explain the 'ripple factor of full wave rectifier.

18. List out the types of transistor biasing.

19. Describe the stability and response of feedback amplifier.

20. What is the working principle of Hartley oscillator?

PART C — (5 × 10 = 50 marks)

Answer ALL questions

21. (a) What are the differences between LED and semiconductor laser?

Or

(b) With neat diagram, explain PN Junction diode and ZENER Diode.

22. (a) What is the main purpose and function of a bridge rectifier?

Or

(b) With neat diagram explain the working of Half Wave and Full Wave Rectifier.

23. (a) Explain in detail about thermal instability and bias stabilization.

Or

(b) Describe the construction and operation of Bipolar Junction Transistor.

24. (a) With neat diagram, explain the working of single stage common emitter amplifier.

Or

(b) What are the different classifications of negative feedback amplifier? Explain.

25. (a) How many RC stages are used in the RC phase shift oscillator and mention the working of it?

Or

(b) How oscillations are produced in crystal oscillator?

———————

Government Arts and Science College for Women

Dharmapuri – 636 704

Department of Electronics & Communication

Subject – Power Electronics

Internal Assessment – I

Marks : 50

Time : 2 Hrs

Class : I BSc (E & C)

Part – A

10 × 1 = 10

Answer all the questions

1. An SCR is a semiconductor device which consists of ____ PN junction

a. 4 b. 3 c. 2 d. 1

2. After triggering an SCR, the gate pulse is removed the current in the SCR will

a. Immediately fall to zero b. Rise up c. Remains the same d. Immediately rise a little and then falls to zero

3. An SCR may be Turned off by

a. Reversing the polarity of the anode-cathode voltage

b. Interrupting the anode current c. Low current drop out d. ✓ All of the above

4. A triac can be triggered at the gate by applying

a. Only positive voltage at the gate b. Only negative at the gate c. Both positive and negative at the gate d. None of the above

5. Which of the following are like a diode and two rectifiers

a. SCR b. TRIAC c. DIAC d. UJT

6. A four layer diode sometimes called

a. UJT b. PNPN diode c. DIAC d. switch

7. TRIAC is

a. 2 terminal AC switch b. 3 terminal AC switch

c. 2 terminal DC switch d. 3 terminal DC switch

8. DIAC is

a. 3 terminal AC switch b. 2 terminal AC switch

c. 3 terminal DC switch d. 2 terminal DC switch

9. When UJT is Conducting, it has

a. Infinitely large resistance b. Resistance of few mega ohms c. Zero resistance

10. The output of UJT Relaxation oscillator is

a. Square wave b. Saw tooth wave c. Sine wave

d. Triangular wave.

Part - B $2 \times 5 = 10$

Answer any two questions.

11. Write a short note on Working of DIAC with V-I characteristics curve.

12. Draw the circuit diagram of UJT Relaxation oscillator and explain it.

13. Explain about the intrinsic stand off ratio of UJT.

Part - C $2 \times 10 = 20$

Answer any three questions.

14. Discuss the working of the triac V-I characteristics curve

15. Explain the construction and working of Triac

16. Explain the working of UJT with VI characteristics curve

17. Explain about the 2 transistor triggering method of SCR

18. Evaluate the diagram Commutation in detail with necessary circuit diagram.

Category Instructor

H.OD

GOVT. ARTS & SCIENCE COLLEGE FOR WOMEN,
BARUGUR - 635 104.

DEPT. OF ELECTRONICS & COMMUNICATION
CYCLIC TEST - II, APRIL - 2023

SUB: NMEC - BASIC ELECTRONICS - II

CLASS: II B.Sc. CS [S_1 & S_2] MAXIMUM: 50 MARKS

DATE: 25-04-2023, AN TIME: 2 HOURS

PART - A MARKS: 5 × 1 = 5

Answer ALL Questions:-

Choose the Correct answers for the following questions:

1. An 8:1 Multiplexer requires _____ select lines.
(a) 2 (b) 3 (c) 4 (d) 8

2. A logic circuit that subtracts three bits at a time is called a _____.
(a) Half Subtractor (b) Full Subtractor
(c) Binary subtractor (d) Decimal subtractor

3. Which one of the following is known as a data distributor?
(a) Demultiplexer (b) Multiplexer (c) Encode (d) All the above

4. Which one of the device converts a.c. voltage into a pulsating d.c. voltage.
(a) Half-wave rectifier (b) Half Adder
(c) Full Adder (d) Capacitor

5. The maximum efficiency of a Half wave rectifier is —
(a) 81.2% (b) 10.6% (c) 50% (d) 1.21

—PTO→

PART - B MARKS: 3X5 = 15

Answer any THREE questions out of six questions

6. Write short notes on Half Adder circuit.

7. Discuss about 1:4 Demultiplexer with suitable sketches.

8. Explain briefly about Full subtractor circuit.

9. Write short notes on 3 to 8 Decoder.

10. What is a ripple factor? Calculate half wave rectifier's ripple factor.

11. Write a note on Encoder circuit with neat diagrams

PART - C MARKS: 3X10 = 30

Answer ALL Questions:-

12. Describe in detail about Full Adder logic circuit with truth table.

13. Explain the functions of Multiplexer circuit with necessary diagrams.

14. Discuss in detail about half wave rectifier's working principle.

1. R. Arunlal 04/04/23
2. [illegible] 04/04/23

SUBJECT INCHARGE

4/4/23
HOD

Government Arts and Science College for Women, Bargur -35104
Department of Electronics and Communication
Model Examination – May 2023
CORE II – APPLIED DIGITAL ELECTRONICS

Class: I B.SC (E & C)

Date & Session: 10/05/2023 & FN

Maximum marks:75

Time: 3 hours

PART A [15*1=15]

Answer ALL questions

1. The value of radix in decimal number system is _____
   a) 2 b) 8 c) 10 d) 1
2. The octal equivalent of 1100101.001010 is _____
   a) 624.12 b) 145.12 c) 154.12 d) 145.21
3. Convert the binary equivalent 01010 to its decimal equivalent.
   a) 13 b) 12 c) 10 d) 31
4. Boolean algebra is also called
   a). Switching algebra b). Arithmetic algebra c). Linear algebra d). Algebra
5. x*y = y*x is the
   a). Commutative law b). Inverse property c). Associative law d). Identity element
6. To perform product of maxterms Boolean function must be brought into
   a). AND terms b). OR terms c). NOT terms d). NAND
7. Which of these sets of logic gates are known as universal gates?
   a). XOR, NAND, OR b). OR, NOT, XOR c). NOR, NAND, XNOR d). NOR, NAND
8. Which logic unit is the fastest of all the logic families?
   a). DTL b). TTL c). ECL d). CMOS
9. The number of inputs in a full adder is?
   a). 8 b). 2 c). 11 d). 32
10. Mod-6 and mod-12 counters are most commonly used in:
    a). Frequency counters b). Multiplexed displays c). Digital clocks d). Power consumption meters
11. When the output of a tri-state shift register is disabled, the output level is placed in a
    a). Float state b). LOW state c). High impedance state d). Float state and a high impedance state
12. Ring and Johnson counters are _____
    a). Asynchronous counters b). Synchronous counters
    c). True binary counters d). Asynchronous and true binary counters
13. _____ analog-to-digital converters (ADCs) use no clock signal, because there is no timing or sequencing required.
    a). Actuator b). Dual c). Flash d). Bipolar
14. The number of binary bits at the input of a digital-to-analog converter (DAC) is known as _____
    a). Accuracy b). Linearity c). Resolution d). Monotonicity

15.Which of the following is a type of error associated with analog to digital converter

a). Nonmonotonic error b). Incorrect output codes c). Offset error

d). Nonmonotonic and offset error

PART B [2*5=10]

Answer any TWO out of FIVE

16. Convert the following decimal numbers to binary. (i)23 (ii).12 (iii).34 (iv).10 (v).20

17. Perform the following addition in the binary system a). 17+15 b).32-20

18. Explain in detail the half adder circuit.

19. Explain the working of a Clocked D flip-flop using NAND gates.

20. Differentiate between analog and digital signals.

PART C [5*10=50]

Answer ALL questions

21. (a). Explain the procedure for the hexadecimal system and give some examples. **[OR]**

(a). Write about the GRAY CODE and ASCII code

22.(a). Explain the basic laws of Boolean algebra with truth tables. **[OR]**

(b). Briefly Explain about De Morgan's theorem.

23.(a). Explain the various basic logic gates with their truth tables. **[OR]**

(b). Explain in detail about de-multiplexer.

24. (a). Explain about the Master slave JK flip flops. **[OR]**

(b). What is a shift register? Discuss their working in detail.

25.(a). Explain about the Successive Approximation type of ADC. **[OR]**

(b). With a Block diagram, explain the principle of A/D converter.

GOVT. ARTS & SCIENCE COLLEGE FOR WOMEN, BARUGUR
DEPT. OF ELECTRONICS & COMMUNICATION
CYCLIC TEST-I, MARCH-2023
SUB: THIN FILM AND NANOTECHNOLOGY

CLASS: II M.SC [ES&C] MAXIMUM: 50 MARKS
DATE: 07/03/2023, FN TIME: 2 HOURS
[10.00 AM to 12.00PM]

PART - A MARKS: 5X1=5

Answer ALL Questions:-

1. The _____ is a device that removes the molecules of air and other gases from the vacuum chamber.
(a) Vacuum guage (b) Vacuum pump
(c) Vacuum seals (d) Pirani gauge

2. _____ is used for measuring Vacuum pressure.
(a) LVDT (b) Rotameter (c) Pirani gauge (d) Anemometer

3. Why are cryogenic pumps used?
(a) Boost pressure (b) Handle low temperature liquids
(c) Handle high temperature (d) pump small quantities of liquids

4. _____ is a layer of material ranging from fraction of a nanometer to several micrometer in thickness.
(a) Thin film (b) Thick film (c) Conductor (d) PVD

5. _____ is commonly used as the sputtering gas.
(a) Arsenic (b) Nitrogen (c) Carbon (d) Argon

—— P.T.O ——>

PART – B MARKS: 3×5=15

Answer any THREE questions out of six questions:-

6. Explain briefly about Vacuum pumps.
7. Write a note on vacuum seals & notion.
8. What are the functions of electrical feedthrough.
9. Discuss about the term E-BEAM.
10. What is an MBE? Explain.
11. Explain briefly about CVD process.

PART – C MARKS: 3×10=30

Answer ALL Questions:-

12. Explain in detail about vacuum guages & its types.
13. Discuss about various PVD methods.
14. Describe in detail about sputtering and its types.

or

Govt. Arts & Science College for Women,
Bargur - 635 104

Department of Electronics & Communication

Cycle Test - I

Year/sem : III B.Sc./VI
Date : 25/04/2023
Session : FN

MARKS : 50
Time : 2 Hrs

B3C MEDICAL INSTRUMENTS

Part - A (5 x 1 = 5)

Answer ALL Questions

1. Which endoscope can be used to look at the knee before and after a surgery?
a) Colonoscopy b) Arthroscopy
c) Bronchoscopy d) Laryngoscopy

2. $A = \log I_0/I$, where I_0 is
a) Incident Light Intensity b) Transmitted Light Intensity
c) Extinction coefficient d) Concentration.

3. How does a defibrillator help a person who is in a cardiac arrest?
a) An AED pumps blood
b) An AED shocks the brain
c) An AED restores normal heart rhythm
d) An AED helps the victim breathe

4 Lights used in phototherapy are
a) Neon light b) Fluorescent
c) Sodium light d) LED light

5 Which surgical functions are performed by the diathermy machine
a) Cutting Coagulation fulguration
b) Cutting fulguration
c) Cutting coagulation
d) Coagulation fulguration

PART – B (3 × 5 = 15)

Answer Any three Questions

6 Write an introduction to Hyperthermia

7 Write short note on principle of diathermy

8 Write short note on defibrillators

9 What is a pacemaker? Explain

10 Define the importance of ECG leads

11 Explain the working of infant warmer

PART – C (3 × 10 = 30)

Answer all Questions

12 Write a brief note about the multipara patient monitor

13 Explain briefly about the external pacemaker

14 Explain about Nebulizer

GOVERNMENT ARTS & SCIENCE COLLEGE FOR WOMEN, BARUGUR – 635 104.

DEPARTMENT OF ELECTRONICS & COMMUNICATION

MODEL EXAMINATION – MAY 2023

SUB: ANALOG AND DIGITAL COMMUNICATION SYSTEM – 19PEL05

Date: 09-05-2023
Class: I M.Sc (E&C)

Maximum: 75 Marks
Time: 3 Hours

PART A – (15 × 1 = 15 Marks)

Answer all questions

Choose the correct answers for the following questions.

1. Space wave propagation reflects the wave with frequencies
   (a) Below 24 Hz (b) 2 to 30 MH (c) Above 30 GHz (d).Above 30 MHz

2. Frequencies in the UHF range normally propagate by means of_____.
   (a) Ground waves (b) sky waves (c) surface waves (d) space waves

3. What is the input impedance of a Half wave folded dipole?
   (a) 73% (b) 292% (c) 146% (d)36.5%

4. For a phase modulated signal, the frequency deviation is proportional to _____
   Frequency only (b) amplitude only (c) only width (d) phase only

5. The modulation index of an AM wave is changed from 0 to 1. The transmitted power is
   a) Unchanged b) halved c) doubled d) increased by 50 percent

6. One of the following is an indirect way of generating FM. This is the_____.
   a) Reactance FET modulator b) varactor diode modulator c) Armstrong Modulator
   d) Reactance bipolar transistor modulator

7. Indicate which of the following systems digital_____is.
   a) PPM b) PCM c) PWM d) PAM

8. Signals which are obtained by encoding each quantized signal into a digital word are called as _____ signal.
   (a) PAM (b) PCM (c) FM (d) Sampling and Quantization

9. In which modulation technique as noise interference is high
   (a) PAM (b) PFM (c) PWM (d) PPM

10. Matched filter may be optimally used only for_____.
a) Gaussian noise b) transit time noise c) Flicker d) None of the above

11. Coherent modulation requires _____ level of synchronization.
(a) One (b) two (c) three (d) four

12. Eye-pattern is utilized for the study of_____.
a) Bit error rate b) error vector c) Inter-symbol interferences d) quantization noises

13. TV transmission, sound signal is _____ modulated.
(a) Phase (b) pulse (c) frequency (d) amplitude

14. In television, 4:3 represents the_____.
(a) Interlace ratio (b) aspect ratio (c) deflection ratio (d) diagonals ratio

15. Which one of the following is a monochrome TV system?
(a) 525 line (b) NTSC (c) SECAM (d) 829 line

PART B - (2 × 5 = 10 Marks)

Answer any TWO questions out of FIVE.

16. Explain the radiation pattern of antennas.
17. Explain the generation of FM using direct methods.
18. Differentiate between pulse amplitude and pulse frequency modulation.
19. Write short notes on eye pattern diagrams.
20. Explain the horizontal scanning frequency in the PAL system.

PART C – (5 × 10 = 50 Marks)

Answer ALL questions.

21. (a) Explain about the concept of sky wave propagation and maximum usable frequency.

(Or)

(b) Describe in detail about resonant and non resonant Antennas.

22. (a) Illustrate the frequency spectrum of the AM wave.

(Or)

(b) Draw the circuit diagram of the grid modulated class C-amplifier and explain it.

23. (a) With a neat diagram, explain the generation of Pulse Amplitude Modulation.

(Or)

(b) Discuss about the Pulse code modulation techniques.

24. (a) Explain the matched filter and derive an expression of the matched filter.

(Or)

(b) Classify the types of error control coding methods.

25. (a) Describe in detail the working of synchronizing pulses with a neat diagram.

(Or)

(b) With a neat diagram, explain in detail the working of VHF/UHF tuner circuit.

(6 pages)

S.No. 2250

21UEL02

(For the candidates admitted from 2021-2022 onwards)

B.Sc. DEGREE EXAMINATION, MAY 2023

Second Semester

Electronics and Communication

APPLIED DIGITAL ELECTRONICS

Time : Three hours Maximum : 75 marks

PART A — (15 × 1 = 15 marks)

Answer ALL questions.

1. Convert the decimal number $(341)_{10}$ into equivalent binary number

(a) 101010101 (b) 111010101

(c) 111110101 (d) 111111101

2. Find the decimal equivalent for the octal number $(767)_8$

(a) 504 (b) 503

(c) 502 (d) 501

3. _____ binary digits should be added for converting into Excess-3 code

(a) 0011 (b) 0110

(c) 1100 (d) 1010

4. In binary subtraction, the borrow will be generated when

(a) 0-1 (b) 1-0

(c) 1-1 (d) 0-0

5. What is the equivalent for A+A in single variable distributive law?

(a) 1 (b) 0

(c) A (d) B

6. The number of cells can be identified in K-Map by using the formula

(a) 2^{n+1} (b) 2^n

(c) 2^{n-1} (d) 2^{n-2}

7. _____ gate gives the zero output when the inputs are 00 & 11.

(a) AND (b) NAND

(c) XOR (d) XNOR

(e) none of the above

8. The required logical gates for designing the half adder circuit.

(a) XOR, OR (b) XOR, NAND

(c) XOR, XNOR (d) XOR, AND

9. ———— number of control lines required to design a 16:1 multiplexer circuit.

(a) 1 (b) 2

(c) 3 (d) 4

10. The RS Flip-Flop has ———— number of inputs and ———— number of outputs.

(a) 1,1 (b) 2,2

(c) 3,3 (d) 4,4

11. To convert parallel data into serial data ———— shift register is used.

(a) SIPO (b) SISO

(c) PIPO (d) PISO

12. In the below option which is decade counter (MOD-10) IC?

(a) 7495 (b) 7490

(c) 7493 (d) 7492

13. In successive approximation A/D convertor, ———— register is used.

(a) SER (b) SAR

(c) SRA (d) SRE

14. What is the percentage of resolution that 8 bit DAC has?

(a) 1/255 (b) 1/256

(c) 254/1 (d) 255/1

15. Which resistor combination used in two resistor ladder network?

(a) R-R (b) R-2R

(c) 2R-R (d) 2R-2R

PART B — (2 × 5 = 10 marks)

Answer any TWO questions out of Five.

16. Convert 101011.101_2 binary number into decimal equivalent number.

17. Prove the De Morgan's theorem with expressions and logical diagram.

18. Explain the universal logical gates with suitable logical diagrams.

19. What is a clocked RS flip flop? Explain.

20. Discuss about accuracy and resolution of ADC.

PART C — (5 × 10 = 50 marks)

Answer ALL questions.

Either (or) Type

21. (a) Convert the given binary numbers into decimal, octal and hexadecimal numbers.

(i) 1011011

(ii) 111001101

Or

(b) Explain Gray to Binary and Binary to Gray code conversion with an example.

22. (a) Using 1's & 2's complement methods find the subtraction for 11010101-11101001.

Or

(b) With suitable Boolean expressions explain the commutative law, associative law and absorption law.

23. (a) Explain the logical gates with the truth table.

Or

(b) Design the 8:1 multiplexer and 1:8 de-multiplexer circuits.

24. (a) With neat diagrams explain different types of shift registers.

Or

(b) Draw and explain modulo up/down counter.

25. (a) Explain with a neat diagram successive approximation type ADC.

Or

(b) What is meant by digital to analog converter? Explain any one type.

———————