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Roll No. 180831/170831/120831
/030831

3rd Sem. / Computer Engineering /IT/GE

Subject : Operating System

Time : 3 Hrs.

M.M. : 100

SECTION-A

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

(Course Outcome/CO)

- Q.1 Define operating system (CO-1)
Q.2 List one system cell. (CO-2)
Q.3 Define FCFS. (CO-3)
Q.4 Define paging. (CO-6)
Q.5 Give one example of dedicated device. (CO-5)
Q.6 Mutual Exclusion is a condition of deadlock. (T/F) (CO-5)
Q.7 _____ is a dedicated device. (CO-4)

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Q.8 _____ is an example of memory/storage device. (CO-6)

Q.9 Linux is a _____ O.S. (GUI/NON GUI)(CO-8)

Q.10 List two states in banker's algorithm. (CO-2)

SECTION-B

Note:Very Short answer type questions. Attempt any ten parts 10x2=20

- Q.11 Differentiate single user and multiuser OS. (CO-1)
Q.12 List two O.S. (CO-1)
Q.13 List one preemptive and one non preemptive scheduling. (CO-3)
Q.14 Write different process states. (CO-2)
Q.15 Write two examples of shared devices. (CO-5)
Q.16 Define spooling. (CO-6)
Q.17 Define storage device (CO-6)
Q.18 Write two filter commands of linux. (CO-9)

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- Q.19 Define inter process communication. (CO-4)
- Q.20 MK Dir command is used for_____ (CO-9)
- Q.21 Define priority scheduling. (CO-3)
- Q.22 Define file system. (CO-1)

SECTION-C

Note:Short answer type questions. Attempt any five questions. 5x8=40

- Q.23 Write any five O.S services. (CO-1)
- Q.24 Define any five system call. (CO-1)
- Q.25 Explain process synchronization. (CO-4)
- Q.26 Explain three operations on process. (CO-2)
- Q.27 Differentiate logical file system and physical file system. (CO-1)
- Q.28 Explain the concept of virtual memory. (CO-6)
- Q.29 Write a shell scent to find factorial of a ns. (CO-10)
- Q.30 Explain two memory allocation techniques. (CO-6)

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- Q.31 Define segmentation. Write its advantages. (CO-6)
- Q.32 Explain the concept of spooling. (CO-6)

SECTION-D

Note:Long answer type questions. Attempt any three questions. 3x10=30

- Q.33 Explain inter process communication. Write in brief about shared memory and message passing. (CO-4)
- Q.34 What is deadlock? Explain various conditions to prevent deadlocks. (CO-5)
- Q.35 Explain paging? Explain any two page replacement algorithm. (CO-6)
- Q.36 Explain the following Linux command with examples:- (CO-9)
- i) MK dir ii) LS iii) Who
- iv) Chmod v) Cat

(**Note:** Course outcome/CO is for office use only)

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30832/31034/106

Computer Engg / IT / Eletx.

Subject : Digital Electronics / Digital Eltx-I

Time : 3 Hrs.

M.M. : 100

SECTION-A

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

- Q.1 A _____ signal varies continuously with time.
- Q.2 In _____ codes, each digit of the code do not have any position weight.
- Q.3 There are _____ cells in a 3 variable K-Map.
- Q.4 A 16:1 MUX has _____ number of select lines.
- Q.5 A counter is a _____ circuit consisting of a combination of flip flops used for counting pulses (combinational/Sequential).
- Q.6 Expand the terms PIPO and PISO.
- Q.7 A _____ FF does not have a race around condition.
- Q.8 A full adder is having _____ inputs and _____ outputs.

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Q.9 For a five input OR gate there can be _____ input combination in the truth table.

Q.10 Find the 2's Complement of the binary number 01100111.

SECTION-B

Note: Very Short answer type questions. Attempt any ten questions out of twelve. 10x2=20

- Q.11 Define A/D and D/A convertor.
- Q.12 Define Ring counter.
- Q.13 Define encoder and decoder.
- Q.14 Define De-Morgan theorem.
- Q.15 Convert $(101011)_2$ to Gray code.
- Q.16 What are digital signals?
- Q.17 Name different types of semiconductor memories.
- Q.18 Convert the following binary numbers to decimal
- (i) $(0100110)_2 = ()_{10}$
- (ii) $(10101010)_2 = ()_{10}$
- Q.19 Give the Truth table for NAND gate.
- Q.20 Give the truth table and the logic diagram of a full adder.
- Q.21 Define positive edge triggered flip flop.

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Q.22 Give the logic diagram of 4 bit serial in serial out shift register using D flip flop.

SECTION-C

Note: Short answer type questions. Attempt any five questions. 5x8=40

Q.23 Perform

- (i) $(16)_{10} - (5)_{10}$ using 1's Complement.
- (ii) $(10)_{10} - (14)_{10}$ using 2's Complement.

Q.24 What do you mean by error detection codes? Explain about even parity.

Q.25 Why NAND and NOT gates are called universal gates?

Q.26 Simplify the expression using Boolean algebra and draw the logic circuit of the simplified expression.

$$\bar{A} B \bar{C} + \bar{A} \bar{B} C + \bar{A} B C + \bar{A} \bar{B} \bar{C}$$

Q.27 Write short note on four bit adder.

Q.28 Give the basic function of a MUX. Draw block diagram and Truth Table of a 8 x 1 MUX.

Q.29 Differentiate between synchronous and asynchronous counter.

Q.30 What is race around condition and how is it removed.

Q.31 Write difference between static and dynamic memories.

Q.32 Discuss the working principle of D/A converter.

SECTION-D

Note: Long answer type questions. Attempt any three questions. 3x10=30

Q.33 Explain with block diagram the working of a 4-bit SISO shift register.

Q.34 Draw a K-Map to reduce the following function and realize the reduced function using NAND gates only

$$F = \sum m(0, 1, 3, 6, 11, 15) + d(2, 5, 13)$$

Q.35 What are logic gates? Explain all logic gates with symbol and Truth Table.

Q.36 Write short notes on any two

- (i) JK master slave flip flop
- (ii) R-2R ladder D/A convertor
- (iii) Postulates of Boolean algebra

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3rd Sem. / Computer Engineering

Subject : Multimedia Applications

Time : 3 Hrs.

M.M. : 100

SECTION-A

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

(Course Outcome/CO)

- Q.1 MP3 is an extension of a _____ file.(CO-2)
- Q.2 FPS stands for_____. (CO-2)
- Q.3 What is Webcam. (CO-1)
- Q.4 The full form of GIF is_____. (CO-2)
- Q.5 The _____ tool of Flash allows you to make freehand selection on the stage. (CO-4)
- Q.6 Give the names of elements of Multimedia. (CO-1)
- Q.7 Define compression ratio. (CO-4)

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Q.8 WMA stands for_____. (CO-2)

Q.9 _____tools is used to reduce the focus of an image. (CO-3)

Q.10 What is Layer? (CO-4)

SECTION-B

Note:Very Short answer type questions. Attempt any ten parts 10x2=20

- Q.11 Write short note on JPEG and MPEG. (CO-1)
- Q.12 Explain Dodge tool. (CO-3)
- Q.13 Write short note on MIDI. (CO-1)
- Q.14 What are the steps for planning a project in Multimedia? (CO-2)
- Q.15 Define Resolution? (CO-4)
- Q.16 Name some of the image formats used in Multimedia. (CO-1)
- Q.17 What is KIOSK? (CO-1)
- Q.18 List various tools in Photoshop? (CO-3)
- Q.19 Write short notes on layers in Flash. (CO-4)

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- Q.20 What do you mean by cropping? (CO-3)
Q.21 What are Actions in Photoshop? (CO-3)
Q.22 Define Time-line. (CO-4)

SECTION-C

Note: Short answer type questions. Attempt any five questions out of ten. 5x8=40

- Q.23 Difference between Lossless and Lossy Compression. (CO-2)
Q.24 What are the different file formats of Media Files? (CO-1)
Q.25 Differentiate between Hyper-Text and Hyper-graphics. (CO-1)
Q.26 Define channels in Photoshop. Also explain types of Channel in brief. (CO-3)
Q.27 What are the various modes to adjust colours in Photoshop? (CO-3)
Q.28 Explain Encoding Techniques. (CO-2)
Q.29 Define Tweening and its various types?(CO-4)
Q.30 Explain QR Codes in brief. (CO-2)

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- Q.31 Mention the major uses problems of Multimedia? (CO-1)
Q.32 Explain various layers of time line available in Flash ? (CO-4)

SECTION-D

Note: Long answer type questions. Attempt any three questions. 3x10=30

- Q.33 Define Multimedia? Write Benefits and problems of Multimedia? Also explain the various applications of Multimedia?(CO-1)
Q.34 Explain Filters in Photoshop. Also explain why filters are important in Photoshop. (CO-3)
Q.35 Explain various authorizing tools in Flash? Also define the features of flash? (CO-4)
Q.36 Write short note on :-
1) data compression (CO-2)
2) Animating (CO-4)

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SECTION-D

Note: Long answer type questions. Attempt any three questions out of four questions. 3x10=30

- Q.33 Explain the concept of IP address. Briefly describe the types of IP address. Also explain the various classes of IP address.
- Q.34 Write short note on dial up connection and broadband. Also discuss their hardware and software requirement and their relative advantages.
- Q.35 Discuss in detail the various services provided by internet.
- Q.36 Discuss in detail how an email works. Also compare an email with snail mail. Write down the advantages of email.

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Roll No.

120834/30854/31461

3rd Sem./computer

Subject : Internet n Web Designing

Time : 3 Hrs.

M.M. : 100

SECTION-A

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

- Q.1 Write down the full form of WWW.
- Q.2 Write down the full form of URL.
- Q.3 Define frame.
- Q.4 ISP stands for_____.
- Q.5 Is HTML case sensitive (True/False)
- Q.6 List any two search engines.
- Q.7 HTTP stands for_____.
- Q.8 Give one example of web browser.
- Q.9 Name any two multimedia software.
- Q.10 How many layers are there in TCP/IP protocol

SECTION-B

Note:Very short answer type questions. Attempt any ten questions out of twelve questions. 10x2=20

- Q.11 What is meant by animation.
- Q.12 Name any four drawing tools in Flash.
- Q.13 What is the difference between cellspacing and cellpadding.
- Q.14 List any two points to be considered to make a good website.
- Q.15 Define attribute.
- Q.16 What are the container elements.
- Q.17 Define web browser and its use.
- Q.18 Define hypertext and hyper media.
- Q.19 What is the use of FORMS in HTML document.
- Q.20 Differentiate between intranet and extranet.
- Q.21 Define newsgroup.
- Q.22 Define the terms Rowspan and Colspan.

SECTION-C

Note:Short answer type questions. Attempt any five questions out of ten questions. 5x8=40

- Q.23 Write down the various applications of internet.
- Q.24 Explain four steps to create a web page
- Q.25 Write down the functions performed by a modem.
- Q.26 Differentiate between flash and GIF.
- Q.27 Write down the advantages of using front page over HTML.
- Q.28 Write a short note on proxy servers.
- Q.29 How graphics are imported in flash.
- Q.30 Create an HTML page having ordered list and table with border of red colour.
- Q.31 Write a short note on video conferencing.
- Q.32 Explain different types of tweening

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3rd Sem. / Computer Engg.

Subject : Data Communication

Time : 3 Hrs.

M.M. : 100

SECTION-A

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

(Course Outcome/CO)

- Q.1 MAN stands for _____. (CO-1)
- Q.2 The block of data is known as _____.(CO-2)
- Q.3 Data can be represented as digital signal.(T/P)
(CO-3)
- Q.4 TDM stands for _____. (CO-4)
- Q.5 WDM stands for _____. (CO-4)
- Q.6 LRC stands for _____. (CO-5)
- Q.7 CRC stands for _____. (CO-4)

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Q.8 Mention unguided media types. (CO-5)

Q.9 What is byte. (CO-2)

Q.10 Define Topology. (CO-1)

SECTION-B

Note:Very Short answer type questions. Attempt any ten parts 10x2=20

- Q.11 What is bandwidth. (CO-1)
- Q.12 Mention various components of data communication. (CO-1)
- Q.13 What is multiplexing? (CO-2)
- Q.14 Define data communication. (CO-2)
- Q.15 Define Distortion. (CO-2)
- Q.16 Define Modulation. (CO-4)
- Q.17 Define metallic media. (CO-3)
- Q.18 Define phase jitter. (CO-5)
- Q.19 State error detection . (CO-5)

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- Q.20 Define synchronous transmission. (CO-4)
- Q.21 Explain the term throughput. (CO-3)
- Q.22 State Bus topology. (CO-1)

SECTION-C

Note: Short answer type questions. Attempt any five questions. 5x8=40

- Q.23 Explain LAN briefly. (CO-1)
- Q.24 Write characteristics of Co-axial cable. (CO-3)
- Q.25 Explain synchronous frame format. (CO-4)
- Q.26 Explain LAN with diagram. (CO-1)
- Q.27 Explain different data encryption standards (CO-5)
- Q.28 Explain FDM in details. (CO-3)
- Q.29 State transmission characteristic of optical fiber. (CO-3)
- Q.30 Explain delta Modulation with block Diagram. (CO-3)

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- Q.31 Short notes on
i) Attenuation ii) Distortion (CO-4)
- Q.32 Explain in brief twisted pair & Co-axial cable. (CO-5)

SECTION-D

Note: Long answer type questions. Attempt any three questions. 3x10=30

- Q.33 Compare LAN, MAN, & WAN. (CO-1)
- Q.34 Explain transmission mode? List the various types of transmission modes with diagrams. (CO-2)
- Q.35 Explain unguided media with their characteristics. (CO-5)
- Q.36 Explain the concept of TDM with the help of diagram. (CO-4)

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Semester: 3rd
Branch: Mechatronics Engg.
Subject Name : Programming in C
Shift: 17.03.2021 (Morning)

Time Allowed : 3Hrs.

MM: 100

Section –A

Note: Objective type questions. Attempt any eight questions out of ten.**8x2=16**

- Q.1 What is the use of Union? (CO 2)
Q.2 Which symbol is used as decision symbol in flow chart? (CO 1)
Q.3 C is case sensitive Language. (True/ False) (CO 2)
Q.4 What is the syntax of for loop? (CO 3)
Q.5 Two dimensional array is called as _____. (CO 5)
Q.6 Define String. (CO 7)
Q.7 Structure is also called as _____. (CO 7)
Q.8 Use of go to statement. (CO 3)
Q.9 Name any two operators used in C. (CO 2)
Q.10 Write any two output functions. (CO 2)

Section-B

Note: Very short answer type questions. Attempt any eight questions out of twelve questions.**8x3=24**

- Q.11 Write the syntax of if-else statement. (CO 3)
Q.12 What is the difference of logical error and syntax error? (CO 1)
Q.13 Define function. Write down the types of functions. (CO 4)
Q.14 What is the base address of array? (CO 5)
Q.15 What is the purpose of ampersand (&) operator? (CO 6)
Q.16 Why array is called as contiguous data structure? (CO 5)
Q.17 Write purpose of logical OR operator. (CO 2)
Q.18 What are unary operators? Give any two examples. (CO 2)
Q.19 What are limitations of flowchart? (CO 1)
Q.20 How string is differing to arrays? (CO 6)
Q.21 Name any two unformatted input functions. (CO 4)
Q.22 What is conditional operator? (CO 2)

Section –C

Note: Short answer type Questions. Attempt any five questions out of ten questions.**5x8= 40**

- Q.23 Write down advantages of Union? (CO 7)
Q.24 What is the single dimension array? How it is declared and initialized? (CO 5)
Q.25. What is the difference of while and while loop? (CO 3)
Q.26 Write note on any two unformatted input function. (CO 2)
Q.27 Name five Primary data type? (CO 2)
Q.28 What is the difference between Top down and Bottom up approach of programming? (CO 1)
Q.29 Write down the various types of array on the basis of dimension. (CO 5)
Q.30 List the operations which can be performed on One Dimension array? (CO 5)
Q.31 Write a program to print the table of any number? (CO 3)
Q.32 Write a program to swap two numbers without using the variable (CO 2)

Section –D

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

- Q.33 What are loop constructs? Discuss various loop constructs used in 'C'. (CO 3)
Q.34 What is recursion? Explain recursion with a suitable example? (CO 4)
Q.35 What is pointer? How it is declared and initialized? What are the benefits of pointer? (CO 6)
Q.36 What is array of structure? Write a program to explain array of structure? (CO 7)