VIVEKANANDA COLLEGE, TIRUVEDAKAM WEST - 625234
DEPARTMENT OF COMPUTER SCIENCE

| Course Code: 10CT12 | Programme: | B.Sc., | CIA: I Test |  |
| :--- | :--- | :--- | :--- | :--- |
| Date: 26.07 .2019 | Major: | COMP.SCIENCE | Semester: I |  |
| Time: 2Hrs | Year: |  | I | Maximum: 50 Marks |
| Course Title: | DIGITAL PRICNCIPLES AND COMPUTER ORGANIZATION |  |  |  |

Answer all questions
(10X1=10)

1. The Octal Number 645 in power of 8 is equal to $\qquad$ CO1
A) 450
B) 451
C) 421
D) 501
2. Representation of a hexadecimal number 6 DE in power of 16 is as:
A) $6 * 16^{2}+13 * 16^{1}+14 * 16^{0}$
B) $6 * 16^{2}+12 * 16^{1}+13 * 16^{0}$
C) $6^{*} 16^{2}+11 * 16^{1}+14 * 16^{0}$
D) $6 * 16^{2}+14 * 16^{1}+15 * 16^{0}$
3. Convert in to decimal : $214_{8}=$ ?

CO1
A) $140_{10}$
B) $141_{10}$
C) $142_{10}$
D) $130_{10}$

CO 1
4. The excess- 3 code for 597 is given by $\qquad$
C) 010110010111
D) 010110101101
5. The Boolean equation of AND gate is $\qquad$ CO1
A) $\mathrm{A}+\mathrm{B}$
B)(A.B)'
C) $(A+B)^{\prime}$
D)A.B

6 .There are $\qquad$ cells in 4-variable K-map
C) 16
D) 18
7. In negative logic binary ' 0 ' stands for $\qquad$ voltage

CO1
A) low
B )middle
C) high
$\qquad$ inputs but only $\qquad$ output
D) none of the above
CO 2

8 .Multiplexer circuit has
A) one , one
B) many, many
C) one , many
D) many, one
9. Which of the following is not a hexa-decimal number?

CO1
A) F
B) H
C)A
D) D
10. The ASCII code for $\$$ is $\qquad$ $-$

CO1
C)0100011
A)1000001
B) 0100000

SECTION-B

## Answer any FIVE questions

11. List out the different types of a number.
12. Write a short notes an basic logic gates. (5X2=10)

CO1
13. Wi. ${ }^{\text {1 }}$.
13. Write the logic circuit for the Boolean equation $\mathrm{Y}=\mathrm{A}^{\prime} \mathrm{BC}+\mathrm{AB}^{\prime} \mathrm{C}$

CO1
14. Convert the following binary to octal

CO1
a) $100110101011_{2}$
b) $001110010011_{2}$
15. Convert the $1011.11_{2}$ to eqivalent decimal number CO1
16. Convert the 5678 Excess- 3 code

CO1
17. Convert the following BCD to decimal
b) 1000100101100011

SECTION-C
Answer any THREE questions
(3X6=18)
18. Draw and explain for the NOR gate

CO1
19. Write a any five basic laws and Boolean algebra CO1
20. Explain the four variable K-map

CO1
21. Write a short notes on multiplexer $\quad \mathrm{CO} 2$
22. .(i) Convert the $278.258_{10}$ to binary number

CO1
(ii)Convert the BC 2 H to decimal number

SECTION-D
Answer any ONE question
(1X12=12)
23. Explain the basic logic gates with neat circuit

CO1
24. Explain the De-multiplexer with neat sketch

CO2

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## SECTION-B

## Answer any FIVE questions

(5X2=10)
11. What is computer organization?

CO1
12. DefineALU?

CO1
13. Write about the Hexadecimal number? CO1
14.Differance between hardware and software?

CO1
15.How to convert hexadecimal number to binary number:
(i)AE8F
(ii) B3DA
CO1
16.Define CPU? CO 2
17. Define Indirect Addressing Mode? CO 2

SECTION-C
Answer any THREE questions
(3X6=18)
18. Discuss about the functional units?

CO1
19. Explain the Bus Structure?

CO1
20.To write Arithmetic operations using Binary numbers? CO1
21.Briefly explain Number Representation. CO2
22.Explain the Addressing Mode? $\quad \mathrm{CO} 2$

## SECTION-D

Answer any ONE Question

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| Course Code: 10CT32 | Programme: | B.Sc., | CIA: I Test |  |
| :--- | :--- | :--- | :--- | :--- |
| Date: 26.07 .2019 | Major: | COMP.SCIENCE | Semester: III |  |
| Time: 2Hrs | Year: |  | II | Maximum: 50 Marks |
| Course Title: |  | COMPUTER GRAPHICS |  |  |

SECTION - A

## ANSWER THE FOLLOWING:

1. is used in designing of buildings, automobiles, aircrafts, textiles, computers and spacecrafts
a) Presentation graphics
b) computer art c) CAD
d) image Processing
CO1
2. $\qquad$ environments used to determine how the operators of a vehicle are affected by certain motions
a)Wireframe display
b) Virtual Reality
c) operating system
d) Architectural CADCO1
3. $\qquad$ is an example for a paint brush program
a) MS Powerpoint
b) MS word
c) Mathematica
d) Lumena
CO1
4. $\qquad$ device is used to produce painting through a specially designed software to produce automatic computer art.
a) Inkjet printer
b) Pen plotter
c) Stylus
d) camera
$\mathrm{CO1}$
5. Film animation requires $\qquad$ no. of frames per second for an animated movement sequence
a) 24
b) 36
c) 20
d) 30
CO1
6. $\qquad$ is a process of transforming an object or a person into another in image processing technology
a) Morphing
b) Motion Capture
c) Animation
d) Surface rendering
CO1
7. $\qquad$ is used to improve picture quality
a) image processing
b) color codes
c) 2 D animation
d) persistence
CO1
8. The property of emitting light for a period of time after the CRT beam stops emission is called
a) Phosphorescence
b) Resolution
c) Persistence
d) Aspect Ratio
CO1
9. Each screen points are referred as $\qquad$
c) Scan line
d) Pixel

CO1
10. Calculators uses $\qquad$ type of display for output
a) Plasma panel
b) LED
c) LCD
d) CRT
$\mathrm{CO1}$

## SECTION - B

## ANSWER ANY FIVE OF THE FOLLOWING: <br> $(5 \times 2=10)$

11. Give any two applications of Computer Aided Designing? CO1
12. Give any two examples for computer art software? CO1
13. What is meant by Morphing? CO1
14. List any two types of visualization techniques? $\quad \mathbf{C O 1}$
15. List the two methods to produce color display in CRT? CO1
16. Distinguish emissive and non-emissive displays with suitable examples for each? CO1
17. What is the purpose of Digitizers? CO1

## SECTION - C

## ANSWER ANY THREE OF THE FOLLOWING:

( $3 \times 6=18$ )
18. Brief a note on any three applications of computer graphics in various field in the industry? CO1
19. Summarize the working of a Refresh CRT with a neat diagram? CO1
20. Critically analyze the working of Color CRT monitors? CO1
21. Discuss about Raster Scan Display Processor? CO1
22. Bring out the standards available for graphics software today? CO1

## SECTION - D

ANSWER ANY ONE OF THE FOLLOWING:
$(1 \times 12=12)$
23. Compare and criticize the working of Random Scan Displays and Flat Panel Displays? CO1
24. Explain with a neat diagram the architecture and basic operation of a raster scan system? CO1

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| Course Code: 10CT51 | Programme: | B.SC., | CIA: I Test |
| :--- | :--- | :--- | :--- |
| Date: 24.07 .2019 | Major: | COMP.SCIENCE | Semester: V |
| Time: 2Hrs | Year: |  | III |
| Course Title: |  | COMPUTER NETWORKS |  |

## SECTION - A

## ANSWER ALL THE QUESTIONS:

$(10 \times 1=10)$

1. Interconnection of computers using transmission medium is called $\qquad$
a) Routing
b) Internet
c) Network
d) e-commerce
2. A computer on the network shares resources for others to use, then it is called as a $\qquad$
a) Client
b) Server
c) mainframe
d) workstation
3. Sending packets to a group of stations is known as $\qquad$
a) Broadcasting
b) multicasting
c) Unicasting
d) point-to -point
4. $\qquad$ mechanism is used to resolve conflicts between two or more computers to send data
a) LIFO
b) Arbitration
c) centralized
d) decentralized
5. $\qquad$ is an switching element in a network
a) Repeater
b) Amplifiers
c) Router
d) Bluetooth
6. $\qquad$ system uses connection oriented service
a) Telephone
b) Postal
c) DNS
d) Telegraph
7. $\qquad$ are set of operations performed by the user process to a access a service
a) Trapping
b) Primitives
c) IP routing
d) encoding
8. Number of layers present in OSI protocol stack is $\qquad$
a) 5
b) 6
c) 4
d) 7
9. TCP is a $\qquad$ layer protocol
a) Network
b) Transport
c) Data Link
d) Application
10. $\qquad$ layer in the OSI is concerned with syntax and semantics of data
a) Application
b) Presentation
c) Data link
d) Network

## SECTION - B

## ANSWER ANY FIVE OF THE FOLLOWING:

$(5 \times 2=10)$
11. Define Network Architecture and give its types?
12. Give any two advantages of client server system using a LAN?
13. Give two reasons for using Layered Protocol stack?
14. What is meant by Arbitration mechanism in network?
15. What are the difference between connection oriented and connectionless service?
16. Which layer of the OSI handles the following:
a) Dividing the transmitted bit stream into frames
b) Determine which route through a subnet to use
17. Classify the types of networks based on the transmission technology?

> SECTION - C

## ANSWER ANY THREE OF THE FOLLOWING

18. Brief a note on uses of networks?
19. Write a summary on protocol hierarchies in networks?
20. Identify the design issues in the layers of the network?
21. Compare the characteristics of LAN and WAN?
22. Explain the characteristics of connection oriented and connection less service?

## SECTION - D

ANSWER ANY ONE OF THE FOLLOWING
( $1 \times 12=12$ )
23. Enumerate on the characteristics of OSI Reference model?
24. Analyze the layers of TCP / IP reference model?

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DEPARTMENT OF COMPUTER SCIENCE

| Course Code: 10CT52 | Programme: | B.Sc., | CIA: I Test |  |  |
| :--- | :--- | :--- | :--- | :---: | :---: |
| Date: 25.07 .2019 | Major: | COMP.SCIENCE | Semester: V |  |  |
| Time: 2Hrs | Year: | III |  |  | Maximum: 50 Marks |
| Course Title: |  | JAVA PROGRAMMING |  |  |  |

## SECTION-A

## Answer all questions

1) Object Oriented Programming language was developed by $\qquad$ .
a) Microsoft
b) Sun Microsystems
c) Oracle
d) IBM
2) What is jdb $\qquad$ ?
a) Compiler
b) Assembler
c) Debugger
d) Editor
3) Data types in java under various categories are $\qquad$
a) Primitive
b) Non-Primitive
c) Primitive and Non-Primitive
d) All of the above
4) The Ranges of the Short values on $\qquad$
a) $-32,767$ to 32,768
b) $-32,768$ to
32,767
c) $-31,767$ to 31,768
d) $-31,767$ to 31,768
5) In the Bitwise OR operator is defined as
a) \&
b) |
c) ~
d) ${ }^{\wedge}$
6) Consider the following evaluation statement $x=a-b / 3+c^{*} 2-1$, where $a=9, b=12, c=3$
a) 11
b) 10
c) 9
d) -10
7) The Java compiler produces an intermediate code known as $\qquad$
a) JVM
b) Byte code
c) JDK
d) JRE
8) \& operator is used in java $\qquad$
a) logic AND
b) Bitwise AND
c) AND
d) ADDRESS
9) For loop is $\qquad$
b) Exit
c) Entry-Exit
d) none
10) $=$ is denoted as $\qquad$
a) Conditional
b) Assignment
c) Relational
d) logic

## SECTION-B

Answer any FIVE questions
11) Any two difference between with JAVA and C++?
12) Define variable.
13) Expand JVM, JDK
14) Define Method
15) What is OOP's?
16) Define Polymorphism
17) Define Keywords

## SECTION-C

## Answer any THREE questions

18) Explain about SIMPLE IF \& NESTED ELSE IF statements with examples
19) Discuss about Data types \& Variables with examples?
20) How Java differ from $C$ and $\mathrm{C}++$
21) Explain about Java Environment
22) Write short notes on 1. Class and Declaring objects.
2. Methods

## SECTION-D

Answer any one
23) Briefly explain about basic concepts of OOPs with examples?
24) Explain about FOR, WHILE \& DO statements with examples?

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| Course Code: 10EP1A | Programme: | B.Sc., | CIA: I Test |  |
| :--- | :--- | :--- | :--- | :---: |
| Date: 26.07 .2019 | Major: | COMP.SCIENCE | Semester: V |  |
| Time: 2Hrs | Year: |  | III |  |
| Course Title: |  | SOFTWARE ENGINEERING |  |  |

SECTION - A

## Answer ALL Questions:

1 .Software acts as $\qquad$ .
a. product.
b. vehicle for delivering a product.
c. both a and b .
d. None.
2. Software delivers the most important product as $\qquad$ -.
a. information.
b. data.
c. vehicle.
d. fact.
3. The software that resides within a product or system is called
a. application software.
b. system software.
c. embedded software.
d. artificial intelligence software.
4. Water fall model is sometimes called as a $\qquad$ .
a. Lifecycle.
b. V-process model.
c. Ordered model.
d. Classic life cycle.
5. Software engineering is a $\qquad$ —.
a. Information technology.
b. Computer technology.
c. Layered technology.
d. Software technology.
6. The foundation for software engineering is
a. process layer.
b. methods layer.
c. tools layer.
d. task layer.
7. Which forms the basis for management control of software project?
a. Methods.
b. Tools.
c. Process.
d. Quality focus.
8. Requirement analysis results in the specification of software's $\qquad$ characteristics.
a. operational.
b. basic.
c. essential.
d. useful.
9. When the model is analyzed, try to minimize $\qquad$ .
a. cohesion.
b. coupling.
c. functions.
d. complexity.
10. A data object can be $\qquad$ entity.
a. external.
b. internal.
c. eternal.
d. single.

## SECTION - B

## Answer Any FIVE Questions

11. Define software Engineering.
12. What are the characteristics of software engineering?
13. Write a goal of programmer reliability.
14. What are the various software application domain.
15. Expand: SRS, MBO
16. Explain the communication activity.
17. Define planning activity.

> SECTION - C

## Answer Any THREE Questions:

18. What are the various project size categories?
19. Discuss about the goal of software engineering?
20. How to plan an organization structure?
21. Explain the prototype life cycle model.
22. Discuss about the program team structure.
23. Explain about Quality and productivity factors.
24. Discuss about the phase life cycle model.

|  | Course Code: 10SB31 | Programme: | B.Sc., | CIA: I Test |
| :--- | :--- | :--- | :--- | :--- |
| Date: 20.07 .2019 | Major: | COMP.SCIENCE | Semester: III |  |
| Time: 1 Hr | Year: | II |  |  |
| Course Title: |  | OPERATING SYSTEM |  |  |

## SECTION-A

## Answer all questions

( $5 \times 1=5$ )

1. $\qquad$ is a processor that manipulates and perform arithmetic operations
A) ALU
B) CPU
C) Motherboard
D) Memory
2. Software is a collection of a $\qquad$
A) Program
B) Data
C)Task
D) Both $A \& B$
3. $\qquad$ is a interface between a computer user and computer hardware
A) Devices
B) Control unit
C)Processor
D) Operating system
4. $\qquad$ Process is waiting for some event
A) Wait
B) Run
C) Execute
D) Ready
5. $\qquad$ type of os each task is given some time to executed
A) Betch OS
B) Distributed OS
C) Time sharing OS
D) Real time OS

## SECTION-B

## Answer any TWO questions

6. Write a short notes on importance of OS
7. What is Memory?
8. What is meant by Run?
9. Write short notes on device management.

## SECTION-C

## Answer any ONE question

10. Explain about the OS,function,objective ,types and needs with neat diagram.
11. Explain the OS process of a viewpoint

## SECTION-D

## Answer any ONE question

12. Explain the types of a operating system resources manager
13. Explain the basic concept and terminologhy for OS

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| Course Code: 10SB51 | Programme: | B.Sc., | CIA: I Test |
| :--- | :--- | :--- | :--- |
| Date: 20.07 .2019 | Major: | COMP.SCIENCE | Semester: V |
| Time: 1 Hr | Year: |  | III |
| Course Title: |  | COMPETITIVE EXAM FOR IT $: 50$ Marks |  |

## Answer all the questions

1) One digit number some times called
A) Oncs
B)Units
C)Single Digit
D)Number
2) 637849 this is a number Face value ( 8 )=?
A) 800
B) 80
C) 8
D) 88
3) 637849 this is a number Place value (3)=?
A) 30000
B) 3000
C) 300
D) 3000000
4) $2,5,10,17,26, ? ?, 50, ?$ ?
А) 36,65
B) 36,63
C) 37,66
D) 37,65
5) $9587-?=7429-4358$
A)6516
B) 6563
C) 6662
D) 6514
6) __ aa __ ba __ b $\qquad$ _ab
A) aaabb
B) babab
C)bbaab
D)bbbaa
7)ba $\qquad$ aab __ a_b
A)acbc
B) acba
C) baba
D)abba
8)Find the missing number for the given box?

| 5 | 9 | 5 |
| :---: | :---: | :---: |
| 4 | 7 | 7 |
| 3 | 10 | 3 |
| 6 | 6 | $?$ |

A) 9
B) 3
C) 11
D) 8
9)Find the missing number for the given box?

| 4 | 7 | 113 |
| :---: | :---: | :---: |
| 5 | 6 | $?$ |
| 7 | 2 | 347 |

A) 93
B) 161
C)113
D) 128
10) $\mathrm{CB}=5$, DISC=43 NEVER=?
A) 74
B) 65
C) 14
D) 48
11) $\mathrm{HEART}=@ 8531$; FEAST $=$ \#8541 ;FARTHEST $=$ ?
A) \#541 @ 831
B) @ $541 \# 831$
C) \#831 @ 541
D) $\# 531$ @ 841
12)NOTION-LMRGML; VECTOR=?
A)VEGXIL
B)VEXGLI
C)EVTCRO
D)EVROTC
13) Find the missing LETTER for the given box?

| B | C | E | G | K | M |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Y | X | V | T | P | $?$ |

A)L
B)S
C) N
D) O
14) A hospital has always
A) Attendants
B) nurses
C) emergency
D) doctors
15)find odd man out
A)Mouth
B)Eye
C)liver
D)lung
16) Computers use the $\qquad$ language to process data.
A) Relational
B) megabyte
C) binary
D) Processing
17) Coffee :: cup:: soup : ?
A) Chicken
B) appetizer
C) Plate
D) Bowl
18) Man: Biography : : Nation : ?
A) History
B) Geography
C) People
D) leader
19) The brain of computer system is
A) ALU
B) Memory
C) CPU
D) Control unit
20) The $3^{\text {rd }}$ generation computers manufactured by
A) vacuum tubes
B) transistors
C) micro processor
D)IC
21)Binding:Book
A) display:museum
B) frame:picture
C) artist:carpender
D) criminal:gang
22) look this series: $7,10,8,11,9,12 \ldots$. what number should come next?
A) 7
B) 10
C) 12
D) 13
23) A, E, I,?, U
A) A
B) S
C) O
D) U
24) Full form of URL is?
A)Uniform Resource Locator
B)Uniform Resource Link
C)Uniform Registered Link
D)Unified Resource Link
25) $\qquad$ is data that has been organized or presented in a meaningful way.
A)Process
B) information
C) storage
D) software
26) $\mathrm{A} / 2, \mathrm{~B} / 4, \mathrm{C} / 6, \mathrm{D} / 8 . ?, ?$
A) $\mathrm{E} / 8, \mathrm{~F} / 10$
B) $\mathrm{E} / 12, \mathrm{~F} / 14$
C) $\mathrm{E} / 10, \mathrm{~F} / 12$
D) $\mathrm{D} / 10, \mathrm{E} / 10$
27) $\qquad$ controls the way in which the computer system functions and provides a means by which users can interact with the computer.
A) The operating system
B) The motherboard
C) The platform
D) Application software
28) Restaurant:: meal :: vending machine : ?
A) lobby
B) snack
C) candy
D) Change
29) FULL is the antonyms of $\qquad$
A) Hollow B) Light
C) Thin
D) Empty
30) If ACTION is coded as ZXGRLM, then

HEALTH will be coded as
A) SVZOGS
B)TVZOGT
C)RUZPGR
D)QVGOZQ
31)If you write down all the numbers from 1 to 100, then how many times do you write 3 ?
A) 11
B) 18
C) 20
D) 21
32) Given interchanges: Signs + and - , numbers 4 and 8 .
A) $4+8-12=12$
B) $4-8+12=0$
C) $8+4-12=2$
D) $8-4+12=8$
33)Find out the two signs to be interchanged for making following equation correct
$5+3 \times 8-12 / 4=3$
A) + and - B) +and /
C) + and $x$
D) - and /
34) If $\times$ stands for 'addition', $\div$ stands for 'subtraction', + stands for 'multiplication' and-stands for 'division', then $20 \times 8 \div 8-4+2=$ ?
A) 80
B) 25
C) 24
D) 19
35) Select the correct set of symbols which will fit in the given equation?
$5035=20$
A) $x, x, x$
B),,$-+ x$
C) $x,+, x$
D),,$+- x$
36)If $Q$ means 'add to', J means 'multiply by', T means 'substract from' and K means 'divide by' then 30 K 2 Q 3 J 6T5 = ?
A) 28
B) 18
C)31
D) 103
37) Given intercharges : Signs + and $x$ and numbers 4 and 5
A) $5 \times 4+20=40$
B) $5 \times 4+20=85$
C) $5 \times 4+20=104$
D) $5 \times 4+20=95$
38)If $\times$ means $\div$, - means $\times, \div$ means + and + means- than $(3-15 \div 19) \times 8+6=$ ?
A) 8
B) 4
C) 10
D) 2
39) What is $7+7 \div 7+7 \times 7-7=$ ?
A) 50
B) 42
C) 0
D) 57
40) Can you Solve $7+7 \div 7+7 \times 7+7-$
$7 \div 7+7 \times 7=$ ?
A) 112
B) 56
C) 0
D) 98
41) Find the missing number in the following series? $3,5,5,19,7,41,9$,?
A) 91
B) 61
C) 79
D) 71
42) What should come in place of question mark (?) in the following number series?
132156 ? $210 \quad 240$
272
A) 196
B) 182
C) 199
D) 204
43) Look at this series: 201, 202, 204, 207, . . What number should come next?
A) 205
B) 208
C) 210
D) 211
44) Which word does NOT belong with the others?
A) GUITAR
B) FLUTE
C)VIOLIN
D) CELLO
45) Which word does NOT belong with the others?
A) COUCH
B) RUG
C) TABLE
D) CHAIR
46) Look at this series: $3,4,7,8,11,12, \ldots$ What number should come next?
A) 7
B) 10
C) 15
D) 14
47) Look at this series: V, VIII, XI, XIV, _, XX,... What number should fill the blank?
A) IX
B) XXIII
C) XV
D) XVII
48) In a certain code language, WINDOW is coded as 452364, SHADE as 17839 . Then HIDDEN is coded as?
A) 763392
B) 753394
C) 765595
D) 756696
49) Arranging of data in a logical sequence called is
A) Sorting
B) classifying
C) reporting
D) summarising
50) A text is entered, using word processor by means of a
A) Printer
B) disk
C) file
D) keyboard

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| DEPARTMENT OF COMPUTER SCIENCE |  |  |  |  |
| :--- | :--- | :--- | :--- | :--- |
| Course Code: 10AT11 | Programme: | B.Sc., | CIA: I Test |  |
| Date: 27.07 .2019 | Major: | COMP.SCIENCE | Semester: I |  |
| Time: 2 Hrs | Year: |  | I | Maximum: 50 Marks |
| Course Title: |  | DISCRETE MATHEMATICS |  |  |

## SECTION-A

## Answer all questions

(10X1=10)

1) An empty set is denoted by
a) Null
b) $\}$
c) a \& b
d) none
2) If $R$ is reflexive, symmetric and transitive then the relation is said to be $\qquad$ .

CO1
a) Binary relation
b) Compatibility relation
c) Equivalence relation
d) Partial order
3) A finite non-empty set of symbols is called $\qquad$ .

CO1
a) alphabet
b) letter
c) string
d) language
4) One to one onto function is also called $\qquad$ .
a) bijective
b) injective
c) surjective
d) composite function
5) Let $\mathrm{R}=\{(3,3),(6,6),(9,9),(12,12),(3,6),(6,3),(3,9),(9,3),(9,12),(12,9)\}$ be a relation on the set $\mathrm{A}=$ $\{3,6,9,12\}$. The relation is
a) Reflexive and transitive
b) reflexive and symmetric
c) symmetric and transitive
d) Equivalence relation
6) Individual Objects in a set are called

CO1
a) Element
b) set
c) list
d) None of above
7) An edge with identical ends is called $\qquad$ .
$\mathrm{CO5}$
A. complete graph
B. bipartite graph
C. loops
D. link
8) An edge with same ends is called $\qquad$ -.
$\mathrm{CO5}$
A. complete graph
B. bipartite graph
C. loops
D. link
9) Any vertex having degree one is called $\qquad$ .
$\mathrm{CO5}$
A. Simple vertex
B. pendent vertex
C. regular vertex
D. complete vertex
10) A graph that has neither self-loops nor parallel edges is called $\qquad$ graph.
$\mathrm{CO5}$
A. regular
B. simple
C. complete
D. null

## SECTION-B

## Answer any FIVE questions

11) Define graph
12) Write the types of Relations CO1
13) Define Sets CO1
14) Write the Commutative Law CO1
15) If $A=\{1,2,6,7,8\} B=\{a, b, 2,1,6\}$ Find $A U B, A / B$ CO1
16) Define Simple graph CO5
17) Write the usage of modulus operator CO1

## SECTION-C

## Answer any THREE questions

(3X6=18)
18) Discuss about relation CO1
19) Define the following: i) Complete Graph ii) Pseudo Graph iii) Directed Graph CO5
20) Draw the Venn diagram of De-Morgan's Law CO1
21) Prove that the $1+2+3+\ldots \ldots+n=n(n+1) / 2$ CO1
22) Let $f: Z$-> $Z$ be a function defined by $f(x)=2 x+3$, Let $g: Z$-> $Z$ be a function defined by $g(x)=3 x+2$. Find i) fog ii) gof.

## SECTION-D

Answer any one
23) a) Let $\mathrm{A}=\{-5,-3,-2,-1\} \mathrm{B}=\{-2,-1,0\}$ and $\mathrm{C}=\{-6,-4,-2\}$. Find $\mathrm{A} \backslash(\mathrm{B} \backslash C)$ and $(\mathrm{A} \backslash \mathrm{B}) \backslash \mathrm{C}$.
b) Write about a) Dictionary Order
b) Cryptography
c) Decryption

CO1
24) Explain about Tree Traversal and its types with example

VIVEKANANDA COLLEGE, TIRUVEDAKAM WEST - 625234
DEPARTMENT OF COMPUTER SCIENCE

| Course Code: 10AT31 | Programme: | B.Sc., | CIA: I Test |  |
| :--- | :--- | :--- | :--- | :--- |
| Date: 27.07 .2019 | Major: | COMP.SCIENCE | Semester: III |  |
| Time: 2Hrs | Year: |  | II | Maximum: 50 Marks |
| Course Title: |  | OPERATIONS RESEARCH |  |  |

SECTION-A
Answer all the questions

1) OR was coined in the year 1940 by $\qquad$ CO1 K1
a) McClosky
b) Thefthen
c) both
d) none
2) The assignment problem is a special case of $\qquad$ CO1 K1
a) Assignment
b) Transportation
c) graphical
d) none
3) Iconic model is known as $\qquad$ CO1 K1
a) Physical
b) Chemical
c) biological
d) none
4) $\qquad$ CO1 K1
a) iconic
b) Analogue
c) Mathematical
d) none
5) $\qquad$ prescribes a course of action of the problem

CO1 K1
a) Simulation model
b) Analogue Model
c) Prescriptive Model
d) none
6) If number of rows and columns equal to number of allocated zero's then the problem is called $\qquad$ CO2 K1
a) Balanced
b) Unbalanced
c) optimum
d) not optimum
7) The unbalanced assignment problem is said to be $\qquad$ CO2 K1
a) rows=columns
b) rows $\neq$ columns
c) order of matrix=assigning zero's
8) On travelling salesman problem staring city and ending city should be- $\qquad$
d)none

CO2 K1
a) Same
b) not same
c) different
d) none
9) Which method is used to solve Assignment problem $\qquad$ CO2 K1
a) Hungarian
b) MODI
c) VAM
d) LPP
10) Another name of mathematical model is $\qquad$
a) Static
b) symbolic
c) prescriptive
d) Simulation

## SECTION-B

## Answer any FIVE questions

11. Define OR

CO1 K1
12. Define Maximization in Assignment Problem. What is the procedure to solve it?

CO2 K1
13. Give the mathematical formulation of Assignment Problem

CO2 K1
14. Write about Physical Model

CO1 K1
15. Define Assignment Problem

CO1 K1
16. what are the methods to solve OR models name it

CO1 K1
17. Define Iconic Model

## SECTION-C

## Answer any THREE questions

18. Discuss Scientific methods in OR

CO1 K2
19. Give any 6 models of OR

CO1 K2
20. Solve the assignment problem

Operators

21. Solve the assignment Problem

CO2 K2
MACHINES
$\begin{array}{llll}\text { M1 } & \text { M2 } & \text { M3 } & \text { M4 }\end{array}$

| J1 | 10 | 5 | 13 | 15 |
| :--- | :--- | :--- | :--- | :--- |

$\begin{array}{llllll}\text { JOBS } & \mathbf{J 2} & 3 & 9 & 18 & 3\end{array}$
$\begin{array}{lllll}\mathbf{J 3} & 10 & 7 & 3 & 2\end{array}$
$\begin{array}{lllll}\mathbf{J 4} & 5 & 11 & 9 & 7\end{array}$
22. Give applications of OR

CO1 K2

## SECTION-D

Answer any ONE
23. Explain Hungarian algorithm method
24. Solve the following assignment problem to find the maximum total expected sale

Area

| salesman | I | II | III | IV |
| :---: | :--- | :--- | :--- | :--- |
| A | 60 | 50 | 40 | 30 |
| B | 40 | 30 | 20 | 15 |
| C | 40 | 20 | 35 | 10 |
| D | 30 | 30 | 25 | 20 |

VIVEKANANDA COLLEGE, TIRUVEDAKAM WEST - 625234
DEPARTMENT OF COMPUTER SCIENCE

| Course Code: 10CT11 | Programme: | B.Sc., | CIA: I Test |  |
| :--- | :--- | :--- | :--- | :--- |
| Date: 23.07 .2019 | Major: | COMP.SCIENCE | Semester: I |  |
| Time: 2Hrs | Year: |  | I | Maximum: 50 Marks |
| Course Title: |  | PROGRAMMING IN C |  |  |

SECTION-A

## Answer all questions

1. Find the incorrect backslash character from the following
a) $\backslash \mathrm{a}$
b) lb
c) $\backslash e$
d) $\backslash d$
2. Which function reading information from keyboard
a) printf()
b) puts()
c) $\operatorname{scanf}()$
d) $\operatorname{put}()$
3. The size of float data type is
c) 32 bits
d) 64bits
4. Find the Assignment operator from the following
a) $==$
b) $>=$
c) $=$
d) <=
5. The values of void data type is
a) NULL
b) 1
c) 8
d) 16
6. In $\operatorname{str} 1+\operatorname{str} 2$ means
7. The function strcpy( $\mathrm{s} 1, \mathrm{~s} 2$ ) in string.h $\qquad$ .
C. appends $s 1$ to end of s 2 .
8. Which is valid string function?
A. $\operatorname{strpbrk}()$;
B. strlen();
C. $\operatorname{strxfrm}()$;

CO1 K1
CO1 K1
CO1 K1
CO2 K1
CO1 K1
CO2 K1
$\begin{array}{lll}\text { B) add value } & \text { C) both }\end{array}$
D) none
A) Combines two string

CO2 K1
D. appends s2 to end of s1. CO2 K1
9. An array is a collection of $\qquad$ .
D. strcut();
A. different data types.
B. same data types.
C. different data types
D. only one data type.
10. Arrays cannot be initialized if they are $\qquad$ .

CO2 K1
A. automatic.
B. external.
C. static.
D. dynamic.

## SECTION-B

| Answer any FIVE questions | (5X2=10) |
| :--- | :--- |
| 11. Define datatypes | CO1 K1 |
| 12. How to declare a variable give syntax with example | CO1 K1 |
| 13. Evaluate the expression $x=a-b / 3+c^{*} 2-1$ | CO1 K1 |
| 14. Write about backslash character with example | CO1 K1 |
| 15. What are the character testing function available in C? | CO1 K1 |
| 16. What are the commonly used printf format codes in C? | CO1 K1 |
| 17. How to assign a value to the variable give syntax with example | CO1 K1 |

## SECTION-C

Answer any THREE questions
18. Write about Switch case statement with example
19. Explain Basic Structure of C programming
20. Explain the Basic Data types in C with example
21. Write short notes about for loop with example
22. Explain input output statement in C with example
(3X6=18)
CO1 K2
CO1 K2
CO1 K2
CO1 K2
CO1 K2

## SECTION-D

Answer any ONE question
23. Explain about C Tokens
24. Explain operators in C with example

