(7 pages) Reg. No. : .....

Code No. : R 21032 **Sub. Code : GACA 4**

B.C.A. (CBCS) DEGREE EXAMINATION, APRIL 2015

Fourth Semester

Computer Applications — Allied

RESOURCE MANAGEMENT TECHNIQUES

(For those who joined in July 2012–2015)

Time : Three hours Maximum : 75 marks

PART A — (10 × 1 = 10 marks)

Answer ALL questions.

Choose the correct answer :

1. _____ is a scientific approach to analyse problems and making decisions.

(a) LPP

(b) Operations research

(c) Stack

(d) Queue

_____ method worked out well in solving the are problem.

(a) OR

(b) Queueing

(c) Linear programming

(d) Transportation

Key concept under which technique are network of events and activities, resource allocation, time and cost consideration?

(a) Game theory (b) Network analysis

(c) Decision theory (d) None of the above

Games which involve more than two players are called

(a) conflicting games (b) negotiable games

(c) n-person game (d) all of the above

What happens when maxmin and minimax values of the game are same?

(a) No solution exists

(b) Solution in mixed

(c) Saddle point events

(d) None of the above

6. When the sum of the gains of one player is equal to the sum of losses to another player in the game this situation is known as

(a) Based game (b) Zero-sum game

(c) Fair game (d) All of the above

7. The cost of providing service in a queueing system decreases with

(a) Decreases average waiting time in queue

(b) Decreased arrival time

(c) Increases arrival rate

(d) None of the above

8. _____ distribution specifies the probability that a certain number of customers will arrive in a given time period.

(a) Waiting line (b) Exponential

(c) Poisson (d) Satisfies

9. In PERT the span of time between the optimistic and pessimistic time estimates of an activity is

(a) 3α (b) 6α

(c) 12α (d) None of the above

Latest start time of an activity in CPM is the

(a) latest occurrence time of the successor event minus the duration of the activity

(b) earliest occurrence time for the predecessor event plus the duration of the activity

(c) latest – occurrence time of the successor event

(d) earliest occurrence time for the predecessor event

PART B — ($5 \times 5 = 25$ marks)

Answer ALL questions choosing either (a) or (b) in about 250 words.

(a) Discuss the usefulness of O.R. in decision making phases.

Or

(b) Define standard form of LPP.

(a) What is game theory?

Or

(b) How games can be related to the numbers?

(a) Mention the major functions of inventory in an organization.

Or

(b) Write note on EOQ model with quantity discounts.

14. (a) List out the rules for network construction

Or

(b) Give a brief account CPM.

15. (a) Comment on FCFS.

Or

(b) Write note on distribution of arrivals.

PART C — ($5 \times 8 = 40$ marks)

Answer ALL questions choosing either (a) or (b)

16. (a) Describe the characteristics of operations research.

Or

(b) Solve the following linear programming problem using simplex method.

Maximize $x_1 + x_2$

Subject to

$$-2x_1 + x_2 \leq 1$$
$$x_1 \leq 2$$
$$x_1 + x_2 \leq 3$$
$$x_1, x_2, x_3 \geq 0.$$

(a) Explain the following terms : strategy, pay-off-matrix, saddle point, pure strategy and mixed strategy.

Or

(b) Solve the game with the following pay-off matrix.

Player A Strategies	Player B Strategies I	II	III	IV	V
1	–2	–3	8	7	0
2	1	–7	–5	–2	3
3	4	–2	3	5	–1
4	6	–4	5	4	7

(a) Enumerate the factors affecting inventory problem.

Or

(b) Discuss about inventory and their objectives.

(a) Illustrate the applications of PERT and CPM.

Or

(b) Explain the terms (i) critical path (ii) critical activities (iii) the measure of certainly in PERT.

20. (a) Explain about queueing system.

Or

(b) A super market has two girls ringing sales at the counters. If the service time each customer is exponential with m 4 minutes and if the people arrive in Poi fashion at the rate of 10 per hour.

(i) What is the probability of having wait for services?

(ii) What is the expected percentage of time for each girl?

(iii) If a customer has to wait, what is expected length of his waiting time?

(6 pages) **Reg. No. :** .....

Code No. : 21044 **Sub. Code : GMCA**

B.C.A. (CBCS) DEGREE EXAMINATION, APRIL 2018.

Fifth Semester

Computer Application – Main

Major Elective – MOBILE COMMUNICATION

(For those who joined in July 2012–2015)

Time : Three hours Maximum : 75

PART A — (10 × 1 = 10 marks)

Answer ALL questions.

Choose the correct answer :

1. ———— can be defined as a comp environment of physical mobility.

(a) Mobile communication

(b) Mobile computing

(c) Wireless communication

(d) Wireless computing

What is the system that gives us the exact position on the earth?

(a) GPS (b) GSM

(c) GIS (d) JAIN

Heart of the cellular mobile communication system

(a) BSC (b) MSC

(c) BTS (d) PSTN

Every mobile equipment in this world has a unique identified. This identifier is called ————

(a) IMEI (b) IMSI

(c) MCC (d) MNC

3G is commonly associated with ————

(a) Bandwidth (b) Down link

(c) Up link (d) Mobile phones

GPRS stands for ————

(a) General packet radio service

(b) General protocol radio service

(c) General packet radio system

(d) General protocol radio system

7. _____ architecture allows all conte and services to be hosted on standard web serve

(a) WAE (b) WWW

(c) WTP (d) WDP

8. _____ occurs due to the summation multipath waves.

(a) Signal fading

(b) Propagation path loss

(c) Co–channel interference

(d) Adjacent channel interferrence

9. Protocol essential for connection–oriented servi

(a) WRP (b) WDP

(c) WTLS (d) WTL

10. The frequency of broad band WLL is around,

(a) 28 KHz

(b) 28 MHz

(c) 28 GHz

(d) 28 NHz

PART B — (5 × 5 = 25 marks)

Answer ALL questions, choosing either (a) or (b).

Each answer should not exceed 250 words.

(a) Give a details on mobile computing devices.

Or

(b) What is the need for AUC in mobile communication? How is it carried out?

(a) Describe how call routing is a achieved in GSM?

Or

(b) Describe handoff techniques.

(a) Describe the contrast between 3G and wifi technologies.

Or

(b) Discuss in details about Intra–satellite handover.

(a) Explain non–co–channel interference.

Or

(b) Why CDMA is needed and explain it with an example?

15. (a) What is a WAP Gateway? What are its functions?

Or

(b) What is direct sequence spread spectrum technology? How does it work in CDMA technology?

PART C — (5 × 8 = 40 marks)

Answer ALL questions, choosing either (a) or (b).

Each answer should not exceed 600 words.

16. (a) Describe the design consideration for mobile computing.

Or

(b) Explain mobile switching center with a block diagram.

17. (a) Explain GSM architecture.

Or

(b) Write in details about the cordless telephony–standards? and explain roaming management.

18. (a) Explain the three configurations for satellites.

Or

(b) With a neat diagram explain CDPD system and its architecture.

19. (a) What is direct sequence spread spectrum technology? How does it work in CDMA technology?

Or

(b) Illustrate the co–channel interference.

20. (a) Explain MANET and technical factors affecting adhoc network.

Or

(b) Describe the bluetooth technology.

———————

(7 pages) Reg. No. : .....

Code No. : 21046 **Sub. Code : GMCA 6 B**

B.C.A. (CBCS) DEGREE EXAMINATION,
APRIL 2018.

Sixth Semester

Computer Applications – Main

Elective — DATA MINING

(For those who joined in July 2012 – 2015)

Time : Three hours Maximum : 75 marks

PART A — (10 × 1 = 10 marks)

Answer ALL questions.

Choose the correct answer :

1. Which of the following a successful data mining technique is not expected to deliver?

(a) Unknown patterns

(b) Actionable

(c) Valid patterns

(d) Confirm expected patterns

2. _____ has data mining software called knowledge STUDIO.

(a) Weka (b) Oracle

(c) Angoss (d) Java

3. Association rule support is defined as

(a) the percentage of instances that contain the antecendent conditional items listed in the association rule

(b) the percentage of instances that contain the consequent conditions listed in the association rule

(c) the percentage of instances that contain all items listed in the association rule

(d) the percentage of instances in the database that contain at least one of the antecendent conditional items listed in the association rule

4. Which one of the following makes the brute force approach to finding association rules not viable?

(a) Too many items

(b) Too many transactions

(c) Too many itemset combinations

(d) Too many rules

5. ———— is the decision tree system that accepts numerical attribute values.

(a) Quadstone (b) OCI

(c) SMILES (d) NBC

6. Which one of the following is true?

(a) Classification is separation of objects into classes

(b) Supervised classification is posteriori classification

(c) Cluster analysis is Apriori classification

(d) No training data is needed in supervised classification

7. Which type of following clustering computes augmented cluster ordering

(a) OPTICS (b) CLIQUE

(c) STING (d) CLUSTER

8. In cluster analysis, ———— is not a distance metric.

(a) Euclidean distance

(b) Manhattan distance

(c) Chebyshev distance

(d) Maximum data value distance

———— pages provide content and have little role in assisting a user's navigation.

(a) Home (b) Index

(c) Reference (d) Content

10. Which one of the following is true?

(a) Web is growing exponentially

(b) Web mining involves finding interesting and useful knowledge from web data

(c) Hyperlink and log data are used in web mining

(d) All of the above

PART B — (5 × 5 = 25 marks)

Answer ALL questions, choosing either (a) or (b).

Each answer should not exceed 250 words.

11. (a) Explain the cleaning and preparing data process.

Or

(b) Give an example of use of data mining in astronomy.

12. (a) List steps of Apriori is most expensive for large databases.

Or

(b) If(a, b) and (e, f) are the only 2-itemsets that are frequent and there are no frequent 3-itemsets, what rules are possible.

13. (a) What is cross-validation?

Or

(b) Explain the application of supervised classification.

14. (a) Hon are the starting values in the K-Means method selected?

Or

(b) List the steps involved in agglomerative method.

15. (a) What is a Hub?

Or

(b) How web data mining could be applied to large company's web site?

PART C — (5 × 8 = 40 marks)

Answer ALL questions, choosing either (a) or (b).

Each answer should not exceed 600 words.

11. (a) Briefly describe three case studies of successful use of data mining.

Or

(b) Distinguish between data mining process and the water fall software development process.

12. (a) Explain the software designed for association rule mining.

Or

(b) Discuss the mining Frequent Patterns without candidate Generation.

13. (a) What is the idea behind decision trees? How does a decision tree explain the structure for a given set of data.

Or

(b) Explain the split algorithm based on the information theory.

19. (a) Write note on Hierarchical methods.

Or

(b) Distinguish between K-means method and Expectation Maximization method.

20. (a) Explain the principles of Finger printing approach.

Or

(b) Illustrate the features of HITS algorithm.

(6 pages) **Reg. No. :** .....

Code No. : 21249 **Sub. Code : JACA 1**
SACA 1

B.C.A. (CBCS) DEGREE EXAMINATION, APRIL 201

First Semester

Computer Applications — Allied

DIGITAL DESIGN

(For those who joined in July 2016 onwards)

Time : Three hours Maximum : 75 marks

PART A — (10 × 1 = 10 marks)

Answer ALL questions.

Choose the correct answer :

1. Which of the following is 2's complement of 1000011?

(a) 1000011

(b) 1111111

(c) 0111101

(d) 0111100

Which of the following is the symbol of AND gates?

(a) 

(b) 

(c) 

(d) None of these

Which of the following gives maxterm combination?

(a) AND

(b) OR

(c) Neither (a) nor (b)

(d) None of these

Which of the following represent exclusive NOR gates?

(a) $x \oplus y$

(b) $(x \oplus y)'$

(c) $(x \odot y)'$

(d) None of these

A full-adder circuit consists of _____ inputs and _____ outputs.

(a) 2, 2

(b) 2, 3

(c) 3, 2

(d) 3, 3

6. Which of the following is said to be a univers gate?

(a) NOR (b) AND

(c) NAND (d) XOR

7. If an encoder has 2^n input lines then it h _____ output lines.

(a) $n+1$ (b) $n+2$

(c) n (d) $n+3$

8. The state of a flip-flop is switched by change in t control of _____.

(a) Output (b) Input

(c) Trigger (d) None of these

9. ROM can perform only the _____ operati

(a) Write (b) Read

(c) Both (a) and (b) (d) All the above

10. A shift register shifting binary information _____ direction(s).

(a) One

(b) Both

(c) (a) or (b)

(d) (a) and (b)

PART B — (5 × 5 = 25 marks)

Answer ALL questions, choosing either (a) or (b) in about 250 words each.

(a) Find the complement of $F_1 = x(\overline{y}\,\overline{z} + yz)$.

Or

(b) Convert the following decimal number *0 into octal number (i) 153 (ii) 0.513.

(a) Show that the dual of the exclusive - OR is equal to its complement.

Or

(b) Explain in detail about Don't care conditions.

(a) Draw a NAND logic diagram that implements the complement of the following function :

$F(A, B, C, D) = \Sigma(0, 1, 2, 3, 4, 8, 9, 12)$.

Or

(b) Design and explain binary subtractor.

(a) Define decoder. Explain with neat diagram.

Or

(b) Explain transition table of flip-flop.

15. (a) Short notes on (i) ROM (ii) RAM.

Or

(b) Explain BCD counter with diagram.

PART C — ($5 \times 8 = 40$ marks)

Answer ALL questions, choosing either (a) or (b), in about 600 words each.

16. (a) Explain the following :

(i) Hexa decimal number.

(ii) Boolean algebra.

Or

(b) Convert the following into decimal number

(i) 10101010_2 (ii) 101010_8

(iii) 101010_{16} (iv) $ABCD_{16}$.

17. (a) Simplify the following function F, together with don't care conditions d,

(i) $F(x, y, z) = \Sigma(0, 1, 2, 4, 5)$
$d(x, y, z) = \Sigma(3, 6, 7)$

(ii) $F(x, y, z, t) = \Sigma(1, 3, 5, 7, 9, 15)$
$d(x, y, z, t) = \Sigma(4, 6, 12, 13)$

Or

(b) Simplify the Boolean function by using [illegible]

$F = \Sigma(0, 1, 2, 4, 5, 6, 8, 9, 12, 13, 14)$.

(a) Simplify the following Boolean functions, using three-variable maps :

(i) $F(x, y, z) = \Sigma (0, 1, 5, 7)$

(ii) $F(x, y, z) = \Sigma (1, 2, 3, 6, 7)$.

Or

(b) Explain in detail about binary adder.

(a) Explain full adder circuit with neat diagram.

Or

(b) Explain any on flip-flop circuit with neat diagram.

(a) Explain in detail about types of ROM and its operations.

Or

(b) What is the use of hamming code? Explain with example.

(6 pages) Reg. No. : .....

Code No. : 21278 Sub. Code : SM

B.C.A. (CBCS) DEGREE EXAMINATION.
APRIL 2018.

Second Semester

Computer Application — Main

OBJECT ORIENTED PROGRAMMING WITH

(For those who joined in July 2017 onwards)

Time : Three hours Maximum

SECTION A — (10 × 1 = 10 marks)

Answer ALL questions.

1. Which one of the following refers to together essential features without background details?

(a) abstraction

(b) encapsulation

(c) data hiding

(d) inheritance

Which one of the following is the memory allocation operator?

(a) Static (b) dynamic

(c) reference (d) new

Ceil (4.6) = _____

(a) 4 (b) 5

(c) 4.6 (d) 5.6

Which one of the following is visible only within the class but its life time is the entire program

(a) Reference variable (b) static variable

(c) const (d) none of the above

Constructor cannot be inherited.

(a) True (b) false

Which one of the following operator cannot be overloaded?

(a) . (b) >>

(c) ?: (d) –

Deriving a class from more than one base class is called as _____ inheritance.

(a) Single (b) multilevel

(c) multiple (d) hierarchical

8. The friend function and the member functi... friend class can directly access the ____ da...

(a) Private

(b) Public

(c) private and public

(d) public and protected

9. The destination stream that receives outp... the program is called the _____ stre...

(a) Input (b) output

(c) i/O (d) all of the ab...

10. Which one of the following function g... current position of the get pointer?

(a) Seekg( ) (b) seekp( )

(c) tellg( ) (d) tellp( )

SECTION B — (5 × 5 = 25 marks)

Answer ALL questions choosing either (a) or (b).

Each answer should not exceed 250 words.

11. (a) Discuss in detail about applications ... oriented programming.

Or

(b) Discuss in detail about scope ... operator with an example program.

12. (a) Explain in detail about call by reference with an example program.

Or

(b) Explain merits and demerits of friend function.

13. (a) Elucidate in detail about parameterized constructor with an example program.

Or

(b) Elucidate in detail about any two type conversion with an example program.

14. (a) Describe in detail about multiple inheritance with an example program.

Or

(b) Describe in detail about abstract class with an example.

15. (a) Analyze in detail about cin, cout, put( ) and get( ) with an example.

Or

(b) Analyze in detail about eof( ), fail( ), bad( ) and good( ) with an example.

SECTION C — (5 × 8 = 40 marks)

Answer ALL questions choosing either (a) or (b).

Each answer should not exceed 600 words.

16. (a) Discuss the key concepts of object oriented programming.

Or

(b) Discuss in detail about memory management operator with an example program.

17. (a) Describe in detail about pass by value with an example program.

Or

(b) Describe in detail about static data member and static member function with example.

18. (a) Illustrate dynamic constructor with example program.

Or

(b) Illustrate overloading binary operator with an example program.

11. Elucidate hierarchical inheritance with an example program.

Or

12. Elucidate how would you use constructors in derived class with an example.

13. Exemplify formatted I/O operations with an example program.

Or

14. Exemplify command line arguments with an example program.

(6 pages)

Reg. No. : .....

Code No. : 21023 **Sub. Code : GMCA**

B.C.A. (CBCS) DEGREE EXAMINATION, APRIL

Fifth Semester

Computer Application — Main

WEB TECHNOLOGIES

(For those who joined in July 2012-2015)

Time : Three hours Maximum : 75

PART A — (10 × 1 = 10 marks)

Answer ALL questions.

Choose the correct answer :

1. What is a search engine?

(a) A program that searches engines

(b) A website that search anything

(c) A hardware component

(d) A machinery engine that search data

Which organization defines the web standards?

(a) Microsoft corporation

(b) IBM Corporation

(c) World Wide Web consortium

(d) Apple Inc

Text with in <EM>..</EM> tag is displayed is ————.

(a) Bold (b) Italic

(c) List (d) Indented

<TD>...</TD> tag is used for ————.

(a) Table heading (b) Table records

(c) Table row (d) None of the above

Java script entities start with ———— and end with ————.

(a) Semicolon, colon

(b) Semicolon, Ampersand

(c) Ampersand, colon

(d) Ampersand, semicolon

Choose the client side javascript object?

(a) Database (b) Cursor

(c) Client (d) File upload

7. XMC uses the features of

(a) HTML (b) XHTML

(c) VML (d) SGMC

8. Which of the following strings are a correct XM name?

(a) _my Element (b) My Element

(c) # my Element (d) None of the above

9. A header in CGI script can specify _____.

(a) Format of the document

(b) New location of the document

(c) Start of the document

(d) Both (a) and (b)

10. The life cycle of a servlet is managed by _____.

(a) Servlet context

(b) Servlet container

(c) The supporting protocol (such as http or https)

(d) All the above

PART B — (5 × 5 = 25 marks)

Answer ALL the questions, choosing either (a) or (b).

(a) Discuss about the protocols governing the web.

Or

(b) What are the major issues in web solution development? Explain.

(a) Explain about the various types of lists in html.

Or

(b) Demonstrate the various types of headings in html.

(a) What is variable? What are the naming convention of variable in Java script?

Or

(b) What is an array? Explain with an example.

(a) Explain about the basic syntax of a XMC document.

Or

(b) What is schema? What are the XMC Schema languages?

15. (a) What are the advantages of servlets over applets?

Or

(b) What are the limitations of cookies.

PART C — (5 × 8 = 40 marks)

Answer ALL the questions, choosing either (a) or (b).

16. (a) Discuss about Web architecture in detail.

Or

(b) Discuss about MIME.

17. (a) Discuss about text formatted tags in html.

Or

(b) Discuss about browser compatibility in CSS.

18. (a) Discuss about request and response objects in Java scripts.

Or

(b) How to pass an arguments to a function in Java script? Explain with an example.

10. (a) Discuss about command usage of XML document.

Or

(b) Discuss about element type declaration and attribute declaration.

11. (a) Discuss about servlet architecture in detail.

Or

(b) Discuss about Displaying filters in detail.

(6 pages) Reg. No. : .....

Code No. : 21025 **Sub. Code : GMCA**

B.C.A. (CBCS) DEGREE EXAMINATION, APRIL 2018.

Sixth Semester

Computer Application — Main

OPERATING SYSTEM

(For those who joined in July 2012 – 2015)

Time : Three hours Maximum : 75 marks

PART A — (10 × 1 = 10 marks)

Answer ALL questions.

Choose the correct answer :

1. _____ software is the heart of computer

(a) System

(b) Application

(c) Operating System

(d) Client/server

Now a days the handheld systems are in the form of _____

(a) Laptop (b) Palmtop

(c) Tablets (d) all of these

Program execution is also refer as _____

(a) thread

(b) process

(c) command execution

(d) all of these

Which is most important in scheduling criteria

(a) CPU Utilisation

(b) Waiting time

(c) Response time

(d) average waiting time

To detect dead lock _____ is used?

(a) data flow diagram

(b) flow chart

(c) resource allocation graph

(d) system chart

6. When two process access the same resource at time _____ may occur

(a) dead lock

(b) race condition

(c) hardware lock

(d) mutual exclusion

7. _____ scheme the physical memory splited into equal parts

(a) paged (b) segments

(c) demand paged (d) all of these

8. Which of the following is not a device?

(a) virtual memory (b) cache

(c) RAM (d) ROM

9. _____ is the collection of related information

(a) File (b) Folder

(c) Disk (d) System

10. _____ is the process of changing jobs from primary to secondary storage vice versa

(a) Swap

(b) Free space management

(c) Allocation

(d) None of these

PART B — (5 × 5 = 25 marks)

Answer ALL questions choosing either (a) or (b).

Each answer should not exceed 250 words.

11. (a) Describe the services of operating systems.

Or

(b) Compare and Contrast Desktop and Multiprocessor system.

12. (a) Describe process scheduling.

Or

(b) Explain CPU scheduling criteria.

13. (a) Give a view on the methods for handling deadlock.

Or

(b) Explain dining philosophers problem.

14. (a) Write short notes on thrashing.

Or

(b) State the functions of memory management. List out various memory management schemes.

15. (a) How to manage swap space? Discuss.

Or

(b) Explain Directory Structure.

PART C — (5 × 8 = 40 marks)

Answer ALL questions choosing either (a) or (b).

Each answer should not exceed 600 words.

16. (a) Describe distributed system.

Or

(b) Discuss clustered system.

17. (a) Explain algorithm evaluation.

Or

(b) Discuss Interprocess communication.

18. (a) How can you detect and recover deadlock?

Or

(b) Describe deadlock system model.

19. (a) Explain the concept of demand paging.

Or

(b) Explain segmentation.

20. (a) Describe various allocation methods.

Or

(b) Discuss about disk attachment and stable storage.

(6 pages) Reg. No. : .....

Code No. : 21243 **Sub. Code : JMCA 3**

B.C.A. (CBCS) DEGREE EXAMINATION, APRIL 2017

Third Semester

Computer Application — Main

JAVA PROGRAMMING

(For those who joined in July 2016 onwards)

Time : Three hours Maximum : 75 marks

PART A — (10 × 1 = 10 marks)

Answer ALL questions.

Choose the correct answer.

1. Java is
   (a) Simple (b) Portable
   (c) OOP (d) All of these

2. What is the value of 7%10?
   (a) 1 (b) 3
   (c) 7 (d) 0

3. Which keyword refers the current object?
   (a) This (b) Final
   (c) Static (d) Finalize

4. _____ keyword refers the super class.
   (a) This
   (b) Super
   (c) Abstract
   (d) None of these

5. What is the name of method used to start thread execution?
   (a) Start (b) Init
   (c) Run (d) Resume

6. Which visibility label is default in Java?
   (a) Public
   (b) Private
   (c) Protected
   (d) None of these

7. To get input from keyboard _____ package is used.

(a) Applet (b) AWT

(c) IO (d) NET

8. HTML stands for

(a) Hyper Text Markup Language

(b) Hybrid Markup Language

(c) Hyper Text Media Language

(d) Hyper Transfer Markup Language

9. AWT stands for

(a) Abstract Window Toolkit

(b) Abstract Window Toolbar

(c) Auto Window Toolkit

(d) Auto Window Toolbar

10. Which of the following is default layout?

(a) Flow

(b) Grid

(c) Border

(d) Card

PART B — (5 × 5 = 25 marks)

Answer ALL questions, choosing either (a) or (b).

Each answer should not exceed 250 words.

11. (a) Explain about operators used in Java.

Or

(b) Explain about type conversion and casting.

12. (a) Explain about constructor with example.

Or

(b) What is Access control? Explain about Access specifiers.

13. (a) Explain about packages.

Or

(b) Explain about try and catch with example.

14. (a) Explain about simple applet display method.

Or

(b) Explain about any five Event Listener interfaces.

15. (a) Describe about window fundamentals with example.

Or

(b) Describe about labels with example.

PART C — (5 × 8 = 40 marks)

Answer ALL questions, choosing either (a) or (b).

Each answer should not exceed 600 words.

16. (a) Explain about the data types of Java.

Or

(b) What is array and explain about types of arrays with example.

17. (a) Explain about: (i) Argument passing (ii) Returning object.

Or

(b) Explain about inheritance basis.

18. (a) Explain about interfaces with example.

Or

(b) Explain about throw, throws and finally.

(a) What is event class? Explain about any five event class with example.

Or

(b) Explain about:

(i) The html applet tag 4

(ii) Passing parameters to Applets 3

(iii) Write a simple program for status window creation using Applets.

(a) Explain about working with Graphics AWT components.

Or

(b) Explain about any four control fundamentals.

(6 pages) Reg. No. : .....

Code No. : 10428 **Sub. Code : JNCN 4 A**

U.G. (CBCS) DEGREE EXAMINATION, APRIL 2018

Fourth Semester

Computer Application

Non Major Elective — INTRODUCTION TO COMPUTER ARCHITECTURE

(For those who joined in July 2016 onwards)

Time : Three hours Maximum : 75 marks

PART A — (10 × 1 = 10 marks)

Answer ALL questions.

Choose the correct answer :

1. Which format is usually used to store data?
   (a) BCD (b) Decimal
   (c) Hexa decimal (d) Octal

2. _____ bus structure is usually used to connect I/O devices.
   (a) Single (b) Multiple
   (c) Star (d) RAM

In computers, subtraction is generally carried out by

(a) 1's complement (b) 10's complement
(c) 2's complement (d) BCD

The sign following by the string of digits is called as _____

(a) Significant (b) Determinant
(c) Mantissa (d) Exponent

The circuit used to store one bit of data is known as

(a) Register (b) Encoder
(c) Decoder (d) Flip flop

In a system, which has 8 registers the register id is _____ long.

(a) 2 bit (b) 3 bit
(c) 4 bit (d) 8 bit

Which memory allows the address space to be larger than the memory space?

(a) cache memory (b) main memory
(c) virtual memory (d) auxiliary memory

8. Cache memory enhances ————

(a) memory capacity

(b) memory access time

(c) secondary storage capacity

(d) secondary storage access time

9. The logic expression for AND gate is ————

(a) $X = A + B$

(b) $X = A * B$

(c) $X = \overline{A} + B$

(d) $X = \overline{A} * B$

10. The logic gate that will have high or '1' at output when any one (or more) of its inputs is ... is $a(n)$ ————

(a) OR gate

(b) AND gate

(c) NOR gate

(d) NOT Operation

PART B — ($5 \times 5 = 25$ marks)

Answer ALL questions, choosing either (a) or (b).

Each answer should not exceed 250 words.

(a) Discuss about basic operational concepts of computers.

Or

(b) Explain Bus structures.

(a) Explain the design of simple adder.

Or

(b) Illustrate addition and subtraction of signed numbers.

(a) Explain about register set.

Or

(b) Discuss control logic unit.

(a) Explain about semiconductor RAMs.

Or

(b) Discuss cache memories.

(a) Explain stack operations.

Or

(b) Explain AND and NOT gates.

PART C — (5 × 8 = 40 marks)

Answer ALL questions choosing either (a) or (b).

Each answer should not exceed 600 words.

16. (a) Explain memory and basic I/O operations.

Or

(b) Explain instruction and instruction sequencing.

17. (a) Explain multiplication of positive integers with an example.

Or

(b) Explain integer division.

18. (a) Describe arithmetic and logic unit.

Or

(b) What is addressing modes? Explain in detail.

19. (a) Explain the basic concepts of memory system and virtual memory.

Or

(b) Discuss secondary storage.

(a) Explain NAND and NOR gates.

Or

(b) Explain OR gates and queue operation.

(6 pages) Reg. No. : .....

Code No. : 21277 Sub. Code : SMCA 11

B.C.A. (CBCS) DEGREE EXAMINATION, APRIL 2018.

First Semester

Computer Applications – Main

PROGRAMMING IN C

(For those who joined in July 2017 onwards)

Time : Three hours Maximum : 75 marks

PART A — (10 × 1 = 10 marks)

Answer ALL questions.

Choose the correct answer :

1. _____ symbol is not used in C character set
   (a) # (b) @
   (c) & (d) **

2. The _____ keyword is used to create constant in C
   (a) const (b) cons
   (c) consta (d) constant

Which of the following is formatted Input function
(a) scanf (b) gets
(c) puts (d) getchar

How many types of if statements are available in C?
(a) 3 (b) 4
(c) 5 (d) 6

_____ array can be represented in matrix form
(a) one (b) two
(c) multi (d) none of these

The array index can be
(a) negative (b) positive
(c) zero (d) both (b) and (c)

A function can return _____ number of values
(a) 0 (b) 1
(c) 2 (d) many

8. A function call another function known as

(a) nested function (b) recursion

(c) sub function (d) none

9. The pointer ———————— is data type

(a) fundamental (b) user-defined

(c) derived (d) none

10. An integer pointer can point ———————— data type

(a) int (b) char

(c) float (d) all of these

PART B — (5 × 5 = 25 marks)

Answer ALL questions, choosing either (a) or (b) in about 250 words each.

11. (a) What is variable? List the rules for declaring variables.

Or

(b) Discuss basic structure of C.

(a) Write a C program to generate fibonacci series 0, 1, 1, 2, 3, 5, 8, ...

Or

(b) Differentiate if and switch.

(a) What is an array? Discuss its types.

Or

(b) Write a C program to compare two strings.

(a) Explain the concept of recursion.

Or

(b) Write a C program to calculate $x + x^2 + x^3 + ...$

(a) Write a note on pointer expressions

Or

(b) How to declare and initialize pointers.

PART C — (5 × 8 = 40 marks)

Answer ALL questions, choosing either (a) or (b), in about 600 words each.

16. (a) Explain any eight mathematical functions in C.

Or

(b) Explain data types in C.

17. (a) Explain various forms of if statement.

Or

(b) Write a C program to check whether the given number is prime or not.

18. (a) Write a C program to calculate standard deviation.

Or

(b) Write a C program to reverse a string.

(a) Explain the categories of functions.

Or

(b) Explain the scope and life time of variable.

(a) Write a C program to sort the numbers in ascending order using pointers.

Or

(b) Describe about pointers and character string.

(6 pages) Reg. No. : .....

Code No. : 21024 **Sub. Code : GMCA 5**

B.C.A. (CBCS) DEGREE EXAMINATION, APRIL 201

Fifth Semester

Computer Application – Main

RDBMS

(For those who joined in July 2012-2015)

Time : Three hours Maximum : 75 ma

PART A — (10 × 1 = 10 marks)

Answer ALL questions.

Choose the correct answer :

1. Updates that violate ———— are disallowed

(a) integrity constrants

(b) transaction control

(c) authenigation

(d) DDL constrants

Which are of the following is used to define the structure of the relation, deleting relation and relation schemes?

(a) DML (b) DDL

(c) Query (d) Relational schema

———— clause is an additional filter that is applied to the result

(a) select (b) group by

(c) having (d) order by

SQL applied predicates in the ———— clause after groups have been formed, so aggregate functions may be used

(a) Group by (b) With

(c) Where (d) Having

Which of the join operation do not pressure non matched tuples?

(a) Left outer join (b) Right outer join

(c) Inner join (d) Natural join

Which of the following creates a virtual relation for storing the query?

(a) function (b) view

(c) procedure (d) none of the above

7. A line of PL/SQL text contains group of charact known as ————

(a) Lexical units (b) Literals

(c) Textual units (d) Identifiers

8. Which function can be used with any data type?

(a) Sum (b) min and Max

(c) AVG (d) TRUNC

9. What is the maximum number of handl processed before the PL/SQL block is exec when an exception occurs?

(a) Only one

(b) All that apply

(c) All referenced

(d) None of the above

10. Which of the following is not correct about defined exceptions?

(a) Must be declared

(b) Must be raised explicitly

(c) Raised automatically is response to an err

(d) None of the above

PART B — (5 × 5 = 25 marks)

Answer ALL questions, choosing either (a) or (b).

11. (a) Explain about naming rules and conventions in oracle.

Or

(b) What is the purpose of drop table? Explain.

12. (a) How to update more than one field in a table? Explain with appropriate example.

Or

(b) What is group by clause? Explain.

13. (a) Explain about various set operations in detail.

Or

(b) Explain local table statement with appropriate syntax.

14. (a) Write a PL/SQL program using any one control structure. Explain.

Or

(b) What is nested blocks? Explain.

15. (a) What is VARRAYS? Explain.

Or

(b) What is records? Explain.

PART C — (5 × 8 = 40 marks)

Answer ALL questions, choosing either (a) or (b).

16. (a) Explain about different ways to display the information of a table.

Or

(b) Explain about rename, drop, truncating table.

17. (a) Write and explain about any five DML commands with appropriate syntax.

Or

(b) Why need string? Explain with appropriate examples.

18. (a) Explain about various types of joins.

Or

(b) What are views? Explain with appropriate examples.

(a) Explain about Arithmetic operators in PL/SQL.

Or

(b) Explain about any five transaction control statements in P2/SQL.

(a) What are composite data types? Explain.

Or

(b) What are two types of exceptions? Explain.

(6 pages) Reg. No. : .....

Code No. : 21026 **Sub. Code : GMCA 6**

B.C.A. (CBCS) DEGREE EXAMINATION,
APRIL 2018.

Sixth Semester

Computer Application — Main

CYBER SECURITY

(For those who joined in July 2012 – 2015)

Time : Three hours Maximum : 75 marks

PART A — (10 × 1 = 10 marks)

Answer ALL questions.

Choose the correct answer :

1. The initial phase of System development life cycle is

(a) Analysis

(b) design

(c) requirement specification

(d) system specification

How many components are there in information system?

(a) 4 (b) 5

(c) 6 (d) 7

_____ risk control strategy accepts the identified risk and deploys no defence strategy

(a) defense

(b) transferal

(c) mitigation

(d) acceptance

_____ extends a private network such as the internet

(a) Intranet (b) Extranet

(c) VPN (d) WAN

IPS stands for

(a) Intrusion Prevention System

(b) Intrusion Prevention Software

(c) Intrusion Protection System

(d) Intrusion Protecting Software

6. Which of the following access control device is mostly used now?

(a) biometric reader

(b) Mag Stripe Reader

(c) Keypad Reader

(d) Mag-lock

7. The famous mobile system is

(a) Android (b) IOS

(c) Blackberry (d) Windows

8. The example of mobile system is

(a) smartphone (b) tablet

(c) laptop (d) all of these

9. The most commonly used security model is

(a) ISO (b) COSO

(c) ITIL (d) ISGF

10. _____ is a branch of forensic science

(a) digital forensics

(b) computer forensics

(c) security forensics

(d) system forensics

PART B — (5 × 5 = 25 marks)

Answer ALL questions choosing either (a) or (b).

Each answer should not exceed 250 words.

11. (a) Discuss the components of an Information System.

Or

(b) Justify Information Security is an Art or a Science.

12. (a) Write short notes on Fire Wall.

Or

(b) How to identify Risk?

13. (a) What is Honey Net?

Or

(b) Explain any one of Cryptographic Algorithm.

14. (a) How to secure mobile system?

Or

(b) What is mean by Accreditation in security?

15. (a) Discuss the credentials of information security professional.

Or

(b) How to maintain information security? Explain.

PART C — (5 × 8 = 40 marks)

Answer ALL questions choosing either (a) or (b).

Each answer should not exceed 600 words.

16. (a) Explain system Development Life Cycle.

Or

(b) Mention the Ethics in Information Security

17. (a) How to manage Risk? Explain.

Or

(b) Describe information security policy.

18. (a) Illustrate about the attacks on cryp systems.

Or

(b) What are various scanning and analy tools used in security? Explain.

19. (a) Discuss Non technical Aspect Implementation.

Or

(b) Describe about failure of supporting util

20. (a) Elaborate various Internal control strategies.

Or

(b) Explain Maintenance model.

———————

(6 pages) Reg. No. : .....

Code No. : R 21251 **Sub. Code : JACA**

B.C.A. (CBCS) DEGREE EXAMINATION, APRIL

Third Semester

Computer Applications — Allied

DATA STRUCTURES

(For those who joined in July 2017 onwards)

Time : Three hours Maximum : 75

PART A — (10 × 1 = 10 marks)

Answer ALL questions.

Choose the correct answer :

1. To solve a collision ———— method is

(a) Clustering

(b) Bucket hashing

(c) Collision

(d) Collision resolution

The address produced by the hashing algorithm is known as ————.

(a) Collision (b) Synonyms

(c) Home address (d) None

The most powerful variations of linked list is ————.

(a) Multilinked list

(b) Circularly linked list

(c) Doubly linked list

(d) Singly linked list

A linear list is in which each element has ————.

(a) A general

(b) A unique successor

(c) A restricted

(d) A linked list

A queue is a ———— structure.

(a) Enqueue (b) Dequeue

(c) LIFO (d) FILO

6. Pop removes the items at the ———— of the stack.

(a) Empty (b) Top

(c) Full (d) Bottom

7. Which of the following need not be a binary tree ————.

(a) Search tree (b) Heap

(c) AVL tree (d) B-tree

8. A leaf is a node with an ————.

(a) Out degree of zero

(b) Indegree of one

(c) Out degree branch

(d) Indegree branch

9. Sort efficiency is a measure of the ———— sort.

(a) Relative efficiency

(b) Ascending

(c) Descending

(d) Selection sort

10. Sorting is useful for ————.

(a) Report generation

(b) Responding queries easily

(c) Making searches easily

(d) All of these

PART B — (5 × 5 = 25 marks)

Answer ALL questions, choosing either (a) or (b).

Each answer should not exceed 250 words.

11. (a) Write about open addressing types of methods.

Or

(b) Write about ADT Give an example.

12. (a) Explain doubly linked list.

Or

(b) Explain the concept of linked list.

13. (a) Evaluate Postflx expressions using stack.

Or

(b) Write about queue structure.

14. (a) Write about heap data structure.

Or

(b) Write about expression trees with an exam

15. (a) Explain the graph Storage Structure.

Or

(b) Explain the quick sort.

PART C — (5 × 8 = 40 marks)

Answer ALL questions, choosing either (a) or (b)

Each answer should not exceed 600 words.

16. (a) Write about binary search with algorithm

Or

(b) Describe about hashed list search with examples.

17. (a) Write about multilinked list.

Or

(b) Describe in details linked list algorithm.

18. (a) Explain queue algorithm.

Or

(b) Describe about queue linked implementation.

(a) Explain the binary search tree and operations.

Or

(b) Explain about the basic heap algorithm.

(a) Explain the shortest path algorithm.

Or

(b) Explain the operations on graph.

(6 pages) **Reg. No. :** .....

Code No. : 21247 **Sub. Code : JMC**

B.C.A. (CBCS) DEGREE EXAMINATION, APRI

Fourth Semester

Computer Application – Main

Non Major Elective — ELECTRONIC COMME

(For those who joined in July 2016 onwards)

Time : Three hours Maximum : 7

PART A — (10 × 1 = 10 marks)

Answer ALL questions.

Choose the correct answer:

1. Buying and selling of goods and services electronic network is called ———

(a) E-Commerce

(b) E-Governance

(c) E-Ticket

(d) E-University

Which of the following is part of the four main types for e-commerce?

(a) B2B (b) B2C

(c) C2B (d) All of the above

———— is about capturing customer requirements, building life-long customer relationships and brand values and influencing demand through promotions.

(a) customer relationship management

(b) customer requirement management

(c) supply chain management

(d) none

PLM is meant for

(a) Project Life cycle Management

(b) Product Life cycle Management

(c) Public Linking chain Management

(d) None

E-business model includes

(a) strategies and Knowledge Management

(b) knowledge Management only

(c) business process domain

(d) both (a) and (c)

6. The business process domains of E-busin models are

(a) Customer Relationship management

(b) Supply Chain Management

(c) Core business operations

(d) All of the above

7. The _____ stage involves buildi basic layout of the site so as to get a taster of the site will look like.

(a) prototype (b) design

(c) implementation (d) testing

8. The expansion for CORBA is

(a) Common Object Request Broker Architect

(b) Component Object Request Architecture

(c) Common Object Read Break Architecture

(d) None

9. The _____ is used as an extens Ethernet to Wireless communication.

(a) 802.11 (b) 802.11a

(c) 802.11b (d) 802.11g

10. To maximize value, the three main stakeholders are

(a) Business

(b) Application development

(c) IT operation

(d) All oldie above

PART B — (5 × 5 = 25 marks)

Answer ALL questions, choosing either (a) or (b).

Each answer should not exceed 250 words.

11. (a) Write a short note on Supply Chain Management.

Or

(b) What are the benefits of SIP? Explain it briefly.

12. (a) Explain how to build a user friendly site in commerce business.

Or

(b) How to avoid the risks involved in E-commerce trust?

13. (a) Write the necessary steps to be followed building the prototype stage.

Or

(b) Explain various modes where the wire network may operates.

14. (a) Explain various challenges for E-busi development.

Or

(b) Write short note on E-commerce

(i) ODBC.

(ii) Java Serve lets.

15. (a) Write a short note on Web Appli development software.

Or

(b) Discuss about SIP and SIMPLE.

PART C — (5 × 8 = 40 marks)

Answer ALL questions, choosing either (a) or (b).

Each answer should not exceed 600 words.

16. (a) Explain how to do business through In

Or

(b) What is strong intellectual pro protection? Explain it.

(a) Explain the elements of E-Business Model in detail.

Or

(b) Write briefly about Internet selling environment.

(a) Explain the requirements needed to start building your commerce site.

Or

(b) Explain how shopping cart technology can be used in E-commerce departmental store.

(a) Write down the steps needed for building an effective E-business Strategy.

Or

(b) Explain about Internet business development merchandising strategies.

(a) Explain the ground rules for E-Business privacy.

Or

(b) Explain various types of attacks recognized in the Cyber Crime.

Reg. No. : .....

Code No. : 21027 **Sub. Code : GMCA 63**

B.C.A. (CBCS) DEGREE EXAMINATION, APRIL 2018.

Sixth Semester

Computer Application — Main

SOFTWARE TESTING

(For those who joined in July 2012 – 2015)

Time : Three hours Maximum : 75 marks

PART A — (10 × 1 = 10 marks)

Answer ALL questions.

Choose the correct answer :

1. Tracing bugs in a program is called as ————

(a) debugging (b) testing

(c) compiling (b) interpreting

2. How many principles for software testing?

(a) 2 (b) 3

(c) 6 (d) 7

3. Black box testing finds ———— errors.
   (a) interface
   (b) performance
   (c) internal data structure
   (d) all of these

4. Integration testing occurs after ———— testing
   (a) unit (b) validation
   (c) system (d) positive

5. System testing falls in the scope of ———— testing.
   (a) interface (b) performance
   (c) white box (d) black box

6. ———— testing is the process of testing changes to software.
   (a) regression (b) alpha
   (c) system (d) acceptance

7. ———— testing performed without planning and documentation.
   (a) beta (b) interface
   (c) adhoc (d) internationalization

8. ———— testing is prepaid for multiple times.
   (a) unit (b) iterative
   (c) system (d) positive

9. Which of the following language used for automaton?
   (a) C (b) Python
   (c) Perl (d) All of these

10. How many types of software metrics is available?
   (a) 2 (b) 3
   (c) 4 (d) 5

PART B — (5 × 5 = 25 marks)

Answer ALL questions choosing either (a) or (b).

Each answer should not exceed 250 words.

11 (a) Discuss the principles of testing.

Or

(b) Define verification and validation.

12 (a) Explain positive and negative testing.

Or

(b) List out the challenges in white box testing.

13 (a) Why is system testing is done?

Or

(b) Mention the best practices to regression testing.

14 (a) Discuss the tools used for internalisation.

Or

(b) Write about iterative testing.

15 (a) What are the skills need for automation?

Or

(b) Why metrics in testing?

PART C — (5 × 8 = 40 marks)

Answer ALL questions choosing either (a) or (b).

Each answer should not exceed 600 words.

16. (a) Discuss the phases of software project.

Or

(b) Explain Waterfall model.

17. (a) Explain various types of integration testing.

Or

(b) Explain static and structural testing.

18. (a) Discuss methodologies for performance testing.

Or

(b) Give a summary of testing phases.

19. (a) Explain agile and extreme testing.

Or

(b) How testing is done in OO Systems? Explain.

20. (a) Explain types of metrics.

Or

(b) Explain the design and architecture of automation.

Reg. No. : .....

Code No. : 21244 Sub. Code : JMCA 32

B.C.A. (CBCS). DEGREE EXAMINATION,
APRIL 2018.

Third Semester

Computer Application – Main

ESSENTIALS OF FINANCIAL ACCOUNTING

(For those who joined in July 2016 onwards)

Time : Three hours Maximum : 75 marks

PART A — (10 × 1 = 10 marks)

Answer ALL questions.

Choose the correct answer :

Drawing is opposite of

(a) income (b) capital

(c) assets (d) expense

———— is one to whom a debt is owed.

(a) proprietor (b) debtor

(c) creditor (d) none

3. A commences a business with a capital of Rs 10,000 ———— account is debited in the books

(a) A's (b) cash

(c) capital (d) none

4. Goods returned by customers are recorded in

(a) sales book

(b) purchase book

(c) sales return book

(d) purchase return book

5. Trial balance is prepared to find out the

(a) profit and loss

(b) financial position

(c) arithmetical accuracy of the account

(d) balance sheet

6. State which of the following errors will not be revealed by the Trial balance

(a) errors of complete omission

(b) error of carrying forward

(c) wrong totaling of the purchase book

(d) error of carrying backward

Opening stock is

(a) debited in trading account

(b) credited in trading account

(c) credited in profit and loss account

(d) debited in profit and loss account

Balance sheet is a

(a) statement (b) account

(c) ledger (d) journal

Receipts and payment account shows

(a) income and expenditure

(b) cash receipts and payments

(c) assets and liabilities

(d) none

Non trading institutions prepare

(a) profit &loss a/c

(b) manufacturing a/c

(c) income and expenditure a/c

(d) none

PART B — (5 × 5 = 25 marks)

Answer ALL questions, choosing either (a) or (b).

11. (a) Describe the objectives of accounting.

Or

(b) Explain the" Bases of accounting".

12. (a) Journalise the following transactions in the books of Mr.Arun.

				Rs.
2017	Jan	1	Mr.Arun commenced business with cash	60,000
		2	Purchased goods for cash	10,000
		3	Purchased goods from Mr. Balu on credit	7,000
		7	Paid into Bank	5,000
		10	Purchased furniture	2,000
		21	Sold goods to geetha on credit	5,000
		25	Cash Sales	3,000
		26	Paid to Mohan on account	1,000
		31	Paid salaries	2,000

Or

(b) Explain how to post journal entry in the Ledger.

(a) Explain how to locate errors in trial balance.

Or

(b) Write the Specimen form of trial balance.

(a) State the difference between trading and profit and loss account.

Or

(b) State the difference between trial balance and balance sheet.

(a) Distinguish between income and expenditure account and profit and loss account.

Or

(b) Prepare income and expenditure account from the following receipts and payment account of Kamaráj Sports club for the year ending 31st Dec 2005

Receipts	Rs.	Payments	Rs.
Balance b/d	1,000	By rent	400
Donations	520	By sundry expenses	420
Subscriptions	6,600	By postage & Telegram	140
		By stationary	60
		By investment	2,000

By Balance c/d:	
Cash in Bank	4
Cash in hand	
	8,120

Additional information :

(i) Subscription from member outstand in 31st Dec 2005, Rs. 400.

(ii) Rent due but not paid on 31st Dec Rs. 120.

PART C — (5 × 8 = 40 marks)

Answer ALL questions, choosing either (a) or (b).

16. (a) Briefly explain various types of accounts.

Or

(b) What are accounting conventions? Explain them.

17. (a) Enter the following transactions in the subsidiary records

May 1 Purchased goods from John for Rs 500 less 10% trade discount

4 Returned John goods worth Rs.100

8 Sold goods to Ram for Rs. 400 less 10% discount

11 Ram returned us goods worth Rs 100

15 Sold goods to Dani for Rs. 300 less 10% trade discount

17 Dani returned us goods worth Rs. 50

20 Bought goods from Easwer for Rs 300

25 Sold goods to Gopal for Rs. 130

Or

(b) Enter the following transaction in a cash book 2003.

			Rs.
May	1	Balance of cash in hand	1,200
	1	Cash sales	3,000
	2	Paid for cash purchases	1,500
	4	Received from Seenu	2,500
	7	Deposited into bank	1,000
	9	Bought goods	250
	13	Paid Taxi charges	140
	15	Paid wages	100
	20	Cash sales	1,300
	21	Received from Gopal	2,000
	24	Paid auto charges	40

26	Bought goods	1,600
30	Bought furniture	1,000
29	Paid salary	1,500
30	Paid wages	470
30	Paid rent	1,000
31	Paid to Mahesh	550

18. (a) Rectify the following errors

Purchase book is overcast by Rs. 1,300

Sales book undercast by Rs.2,500

Purchase return book overcast by Rs.750

Sales return book under cast by Rs.600

Or

(b) Prepare Trial balance from the following

Capital	75,000	Sales	1,[illegible]
Stock	30,000	Debtors	[illegible]
Purchases	50,000	salary	[illegible]
Interest (Cr.)	5,000	Loan	[illegible]
Bills Payable	9,000	wages	[illegible]
Bad debts	2,000	cash	[illegible]

(a) Explain any one structure of the balance sheet.

Or

(b) Write the specimen form of Profit and loss account.

(c) Write the specimen form of Receipts and payments account.

Or

(b) Compute the expenditure to be shown in income and expenditure account from the following

		Rs.
(i)	Sports materials purchased for cash	20,000
	Opening stock of sports material	5,000
	Closing stock of sports materials	8,000
	Opening creditors for sports materials	7,000
	Cash paid to creditors for sports materials	22,000
	Closing creditors for sports materials	6,000

(ii)	Stationary purchased during the year	40,000
	Opening stock of stationary	8,000
	Closing stock of stationary	9,000

(6 pages) Reg. No. : .....

Code No. : 21028 **Sub. Code : GMCA6**

B.C.A. (CBCS) DEGREE EXAMINATION, APRIL 201

Sixth Semester

Computer Application — Main

COMPUTER GRAPHICS AND MULTIMEDIA

(For those who joined in July 2012-2015)

Time : Three hours Maximum : 75 mark

PART A — (10 × 1 = 10 marks)

Answer ALL questions.

Choose the correct answer :

1. _____ is used to design components system of mechanical, electrical. electronic de including structures of buildgs etc.,

(a) Java

(b) CAD/CAM

(c) Matlab

(d) Python

Expand GKS

(a) Graphics Knowledge System

(b) Global Knowledge system

(c) Graphics Kernel System

(d) Global Kernel system

_____ technique provides a more general framework for scan conversion procedure.

(a) DDA (b) Bresenhams

(c) Polynomial (d) Mid point

The algorithm which displays line-type attributes by plotting pixel spans is

(a) Raster line algorithm

(b) Raster scan algorithm

(c) Random line algorithm

(d) Random scan algorithm

The transformation in which the dimension of an object are changed relative to a specified fixed point is called

(a) Translation (b) Scaling

(c) Rotation (d) Reflection

6. In 2D-translation, a point (x, y) can move to the new position (x', y') by using the equation

(a) x'=x+dx and y'=y+dx

(b) x'=x+dx and y'=y+dy

(c) X'=x+dy and Y'=y+dx

(d) X'=x-dx and y'=y-dy

7. The region against which an object is to be clipped is called as_____

(a) world coordinate (b) view port

(c) clip window (d) boundaries

8. The region code of the clipping rectangle is _____

(a) 0000 (b) 0001

(c) 1000 (d) 1111

9. In Windows, system sounds are _____ files

(a) .rar. (b) .wav.

(c) .3gp. (d) .wmv

10. _____is used to establish to link to another web page containing multimedia documents

(a) text (b) images

(c) hypertext (d) sound

PART B — (5 × 5 = 25 marks)

Answer ALL questions choosing either (a) or (b).

Each answer should not exceed 250 words.

11. (a) Comment on Interlacing.

Or

(b) Explain the Colour Raster Scan systems.

12. (a) Write a routine for scan converting lines with negative slopes.

Or

(b) Is the floodfill algorithm suitable for large polygons? If not. then can you suggest a remedy?

13. (a) Show that a shearing matrix can be described as combination of rotation and scaling transformation.

Or

(b) Write note on 3D Reflection transformations.

14. (a) Discuss the viewing transformation matrix.

Or

(b) Mention coherence properties useful to improve the efficiency of Z-buffer algorithm.

15. (a) Explain the commonly used compression standards developed by JPEG.

Or

(b) What is meant by Quantization.

PART C — (5 × 8 = 40 marks)

Answer ALL questions choosing either (a) or (b).

Each answer should not exceed 600 words.

16. (a) Illustrate the hardware components used in a graphical system for real-time outputs.

Or

(b) Describe different techniques for generation of colours in RGB monitors.

17. (a) Elucidate the advantages of Bresenham's line drawing algorithm, over the polynomial and DDA methods.

Or

(b) Write a procedure to determine a seed point for filling a polygon using the odd-even method.

18. (a) Elucidate the Scaling about a Reference point.

Or

(b) Discuss the Homogenous coordinate system.

19. (a) Discuss the Sutherland-Cohen midpoint subdivision algorithm.

Or

(b) What are self-hidden surfaces? Can we remove them using back-face removal algorithm?

20. (a) Discuss the MPEG Compression technique.

Or

(b) Describe how music can be composed and synthesized in MIDI.

(6 pages)

Reg. No. : .....

Code No. : 41364 E **Sub. Code : SACA 31**

B.C.A. (CBCS) DEGREE EXAMINATION,
NOVEMBER 2018.

Third Semester

Computer Applications – Allied

DATA STRUCTURE

(For those who joined in July 2017 onwards)

Time : Three hours Maximum : 75 marks

PART A — (10 × 1 = 10 marks)

Answer ALL questions.

Choose the correct answer :

1. ———— Searches requires an ordered list.

(a) Sequential (b) binary

(c) hashed list (d) None

2. The efficiency of binary search is ————

(a) 0 (b) o(log2n)

(c) $o(n^2)$ (d) $0(c^n)$

3. ———————— list is a linked list with two or more logical lists.

   (a) multilinked list

   (b) circularly linked list

   (c) doubly linked list

   (d) singly linked list

4. A linear list is in which each element has ————.

   (a) a general

   (b) a unique successor

   (c) a restricted

   (d) a linked list

5. A queue is a ————— structure.

   (a) Enqueue

   (b) Dequeue

   (c) LIFO

   (d) FIFO

6. A stack is a list in ————.

   (a) meta data

   (b) descending chronological sequence

   (c) LIFO

   (d) back tracking

7. A tree consists of finite set of elements ————.

   (a) Root

   (b) Leaf

   (c) Node

   (d) Branches

8. A leaf is a node with an ————.

   (a) out degree of zero

   (b) indegree of one

   (c) out degree branch

   (d) indegree branch

9. The maximum degree of any vertex in a simple graph with n vertices is

   (a) N

   (b) n^{-1}

   (c) n_{+1}

   (d) 2n–1

10. ———— is a graph whose are weighted.

   (a) spanning tree

   (b) network

   (c) Minimum spanning tree

   (d) Undirected graph

PART B — (5 × 5 = 25 marks)

Answer ALL questions choosing either (a) or (b).

Each answer should not exceed 250 words.

11. (a) What do you mean by Pseudo Code?

Or

(b) Write about ADT. Give an example.

12. (a) Explain the concept of linear list.

Or

(b) Explain the linked representation of binary tree.

13. (a) Write about queue operation.

Or

(b) Explain the array representation of stack.

14. (a) Explain the linked representation of binary tree.

Or

(b) Write about expression trees with an example.

15. (a) Explain the basic concepts of sorting.

Or

(b) Explain the graph Storage Structure.

PART C — (5 × 8 = 40 marks)

Answer ALL questions choosing either (a) or (b).

Each answer should not exceed 600 words.

16. (a) Write about binary search with algorithm.

Or

(b) Describe about hashed list search with examples.

17. (a) Write the algorithms of linked list operations. Discuss it.

Or

(b) Write about Complex linked list structures.

18. (a) Discuss about basic stack operations.

Or

(b) Describe about queue linked list implementation.

19. (a) Explain binary search tree algorithm with examples.

Or

(b) What is heap? Explain about basic heap algorithm.

20. (a) Write an algorithm and explain about quick sort.

Or

(b) Explain in details about graph storage structure.

———————

Reg. No. : .....

Code No. : 41359 E **Sub. Code : SMCA 32**

B.C.A. (CBCS) DEGREE EXAMINATION,
NOVEMBER 2018.

Third Semester

Computer Application — Main

FINANCIAL ACCOUNTING

(For those who joined in July 2017 onwards)

Time : Three hours Maximum : 75 marks

SECTION A — (10 × 1 = 10 marks)

Answer ALL questions.

Choose the correct answer :

1. The principle of accountancy which recognizes the double aspect of a business transaction is known as ———————— concept.

   (a) entity concept

   (b) dual aspect

   (c) accrual concept

   (d) objectivity concept

2. The rule for Real Account is

(a) debit what comes in credit what goes out

(b) debit the receiver credit the given

(c) debit all expenses and losses and credit all gains and incomes

(d) none of the above

3. Purchase Return Book is prepared on the basis of ————————.

(a) debit note (b) credit note

(c) invoice notes (d) requisition notes

4. Journal is also called as ————————.

(a) book of original entry

(b) books of subsidiary record

(c) books of prime entry

(d) all the above

5. A schedule of balances drawn from the ledger is called

(a) trial balance (b) balance sheet

(c) income statement (d) trading a/c

6. Appearing in the Trial Balance are shown in the balance sheet

   (a) prepaid expenses

   (b) outstanding expenses

   (c) outstanding income

   (d) all the above

7. Which of the following is the aim of manufacturing account?

   (a) to disclose the operating profit

   (b) to find out total cost

   (c) to ascertain the factor cost of production

   (d) cost control and ascertainment of cost

8. The first part of the income statement is called

   (a) profit and loss a/c

   (b) balance sheet

   (c) trading a/c

   (d) trading profit and loss a/c

9. Income and expenditure account is a nature of

   (a) Real a/c

   (b) Personal a/c

   (c) Nominal a/c

   (d) Representative of personal a/c

10. Donations received for a specific purpose is

(a) capital receipts (b) revenue receipts

(c) liability (d) asset

SECTION B — (5 × 5 = 25 marks)

Answer ALL questions, choosing either (a) or (b).

Each answer should not exceed 250 words.

11. (a) What is Double Entry System of Book-Keeping? What are its advantages?

Or

(b) Explain Personal a/c, Real a/c and Nominal a/c.

12. (a) Journalise the following transactions :

(i) Started business with cash Rs. 9,000

(ii) Purchased goods for cash Rs. 2,100

(iii) Sold good for cash Rs. 700

(iv) Deposited into Canara Bank Rs. 3,000

(v) Cash received from Rajan Rs. 400

(vi) Cash paid to Ananda Traders Rs. 1,000

(vii) Paid salary Rs. 300

(viii) Paid rent Rs. 400

(ix) Received commission Rs. 200

(x) Withdrew from Canara Bank Rs. 1,200.

Or

(b) What is meant by Subsidiary Books? Explain the different types of Subsidiary Books.

13. (a) From the following balance of accounts prepare Trial Balance :

Capital a/c Rs. 40,000, Building a/c Rs. 6,000, Bank a/c Rs. 4,000; Interest a/c Rs. 350; B/R a/c Rs. 8,000; Debtors a/c Rs. 30,000; B/P a/c Rs. 15,900; Furniture a/c Rs. 6,500; Discount received a/c Rs. 1,200; Discount allowed a/c Rs. 2,100; Machinery a/c Rs. 8,000; Creditors a/c Rs. 7,850.

Or

(b) What are the errors that affect the agreement of Trial Balance?

14. (a) Explain the different stages in Financial Accounts.

Or

(b) From the following information ascertain Gross Profit and Net Profit.

Stock at beginning Rs. 2,400; Purchases Rs. 15,205; Sales Rs. 20,860; Closing stock Rs. 3,840; Return outward Rs. 185; Return inwards Rs. 860; Carriage inward Rs. 524; Manufacturing wages Rs. 2,800; Manufacturing wages outstanding Rs. 96; Loss due to fire Rs. 1,000; Indirect expenses Rs. 200.

15. (a) Explain Receipts and Payments account.

Or

(b) What amount will be shown in the Income and Expenditure a/c

Subscription outstanding on 1.1.99 to Rs. 1,500

Subscription received ruing 1999 Rs. 16,500

Subscription received in advance on 1.1.99 Rs. 2,500

Subscription outstanding on 31.12.1999 Rs. 3,500

Subscription received in advance Rs. 6,000 on 31.12.1999.

SECTION C — (5 × 8 = 40 marks)

Answer ALL questions, choosing either (a) or (b).

Each answer should not exceed 600 words.

16. (a) Explain the various accounting concepts and conventions.

Or

(b) Explain the objectives and functions of accounting.

17. (a) Journalise the following transactions :

(i) Sold goods for cash Rs. 1,300

(ii) Purchased goods Rs. 400

(iii) Purchased goods from Kumar Rs. 300

(iv) Sold goods to Prabu Rs. 2,000

(v) Received cash from Prabu Rs. 1,200

(vi) Paid to Kumar Rs. 1,000

(vii) Paid salary Rs. 700

(viii) Received rent from Arun Rs. 500

(ix) Purchase a machinery from Babu for Rs. 15,000 for cash

(x) Furniture sold to Chandran Rs. 5,000 on credit.

Or

(b) What is Ledger? How is it maintained? Explain its significance.

18. (a) Prepare a Trial Balance :

Opening stock Rs. 10,600; Wages Rs. 2,200; Carriage inwards Rs. 200; Commission (Dr) Rs. 300; Purchases Rs. 12,000; Return inwards Rs. 440; Trade expenses Rs. 580; Rent Rs. 200; Plant Rs. 2,600; Repairs to plant Rs. 460; Cash in hand Rs. 200; Cash at bank Rs. 1,000; Debtors Rs. 3,000; Income tax Rs. 500; Drawings Rs. 700; Return outwards Rs. 150; Sales Rs. 25,200; Discount received Rs. 400; Capital Rs. 70,000; Creditors Rs. 830; Loan (Cr) Rs. 1,400.

Or

(b) What is Trial Balance? Explain the objectives of Trial Balance.

19. (a) From the following trial balance, you are required to prepare Trading, Profit and Loss a/c and Balance sheet for the year ended 31.12.2017.

Trial Balance

Debit	Rs.	Credit	Rs.
Drawings	4,000	Capital	20,000
Cash at bank	1,700	Sales	16,000
Cash in hand	6,500	Sundry creditors	4,500
Wages	1,000		
Purchases	2,000		
Stock (1.1.2017)	6,000		
Buildings	10,000		
Sundry debtors	4,400		
Bills receivable	2,900		
Rent	450		
Commission	250		
General expenses	800		
Furniture	500		
	40,500		40,500

Adjustments :

(i) Closing stock Rs. 4,000

(ii) Interest on capital at 6%

(iii) Interest on drawing at 5% to be provided

(iv) Wages yet to be paid Rs. 100

(v) Rent prepaid Rs. 50.

Or

(b) From the following trial balance, prepare trading, profit and loss and balance sheet as on 31.12.2017 :

Trial Balance

	Rs.		Rs.
Purchases	15,000	Capital	40,000
Salaries	2,000	Sales	25,000
Rent	1,500	Creditors	1,000
Insurance	300		
Drawings	5,000		
Machinery	28,000		
Bank balance	4,500		
Cash	2,000		
Stock (1.1.2017)	5,200		
Debtors	2,500		
	66,000		66,000

Adjustments :

(i) Closing stock Rs. 4,900

(ii) Salaries unpaid Rs. 300

(iii) Rent paid in advance Rs. 200

(iv) Insurance prepaid Rs. 90.

20. (a) Distinguish between Income and Expenditure and Receipts and Payments account.

Or

(b) Prepare Income and Expenditure account from the following receipts and payments a/c

Receipts	Rs.	Payments	Rs.
To Balance b/d	1,000	By Rent	400
To Donations	520	By Sundry expenses	420
To Subscriptions	6,600	By Postage and telegram	140
		By Stationary	60
		By Investments	2,000
		By Balance c/d :	
		Cash in hand	4,350
		Cash at bank	750
	8,120		8,120

Additional Information :

(i) 31.12.2015 subscription from members outstanding Rs. 400

(ii) Rent due but not paid on 31.12.2015 Rs. 120

(iii) Donation is to be capitalised.

———————

(6 pages) **Reg. No. :** .....

Code No. : 41362 E **Sub. Code : SNCA 3 A**

U.G. (CBCS) DEGREE EXAMINATION,
NOVEMBER 2018.

Third Semester

Computer Applications

Non Major Elective – INTRODUCTION TO
INFORMATION TECHNOLOGY

(For those who joined in July 2017 onwards)

Time : Three hours Maximum : 75 marks

PART A — (10 × 1 = 10 marks)

Answer ALL questions.

Choose the correct answer:

1. Devices that accepts data from outside computer and transfer into CPU are called

   (a) input device

   (b) digital device

   (c) analog device

   (d) truth table peripherals

2. The number system has only two symbols is

   (a) Hexadecimal (b) Decimal

   (c) Boolean (d) Binary

3. Secondary storage memory is basically

   (a) volatile memory

   (b) non volatile memory

   (c) backup memory

   (d) impact memory

4. WORM stands for

   (a) Write Only Read Many

   (b) Write Out Read Memory

   (c) Write Only Read Memory

   (d) Write Output Recorded Memory

5. A Peripheral which is used to accept data and send to a processing unit is called

   (a) Input devices

   (b) Output devices

   (c) Data Devices

   (d) Digital devices

6. GUI Stands for
   (a) Graphical User Interface
   (b) Graphics User Interrupt
   (c) Graphical User Interrupt
   (d) Graphics user interface

7. Which of the following protocols is used for WWW?
   (a) FTP (b) HTTP
   (c) W3 (d) All of the above

8. A user can get file from another computer on internet by using
   (a) HTTP (b) TELNET
   (c) UTP (d) FTP

9. 2G standards support
   (a) Limited internet browsing
   (b) Short message service
   (c) Both (a) and (b)
   (d) None

10. ———————— is a Commercial process that includes production distribution, sales or delivery of goods and services through electronic means
   (a) E-Commerce (b) SCM
   (c) EDI (d) None of the above

PART B — (5 × 5 = 25 marks)

Answer ALL questions, choosing either (a) or (b).

Each answer should not exceed 250 words.

11. (a) Information is most important? Explain.

Or

(b) State the components of information Technology in details.

12. (a) Explain various types of RAM.

Or

(b) Explain various types of ROMs.

13. (a) Write a note on Audio visual Input Device.

Or

(b) Mention any five application of multimedia.

14. (a) Write a note on URL.

Or

(b) Explain various domain names in WWW.

15. (a) Write a short note on EDI.

Or

(b) Write a short note on GPRS.

PART C — (5 × 8 = 40 marks)

Answer ALL questions, choosing either (a) or (b).

Each answer should not exceed 600 words.

16. (a) Explain briefly about the role of information technology in the global world.

Or

(b) Write a brief note on

(i) WWW

(ii) Internet chatting

(iii) Usenet 4 Blogs.

17. (a) Explain various types of magnetic disk.

Or

(b) Write a brief note about DVD.

18. (a) Discuss various output devices.

Or

(b) Explain various building blocks of multimedia.

19. (a) Discuss various types of internet Connections?

Or

(b) Explain any three applications of Internet.

20. (a) Explain briefly about Smart Card.

Or

(b) Write a brief note on Nanotechnology.

———————

(6 pages) **Reg. No. :** .....

Code No. : 41362 E **Sub. Code : SNCA 3 A**

U.G. (CBCS) DEGREE EXAMINATION,
NOVEMBER 2018.

Third Semester

Computer Applications

Non Major Elective – INTRODUCTION TO
INFORMATION TECHNOLOGY

(For those who joined in July 2017 onwards)

Time : Three hours Maximum : 75 marks

PART A — (10 × 1 = 10 marks)

Answer ALL questions.

Choose the correct answer:

1. Devices that accepts data from outside computer and transfer into CPU are called

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   (d) truth table peripherals

2. The number system has only two symbols is

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   (c) Data Devices

   (d) Digital devices

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9. 2G standards support
   (a) Limited internet browsing
   (b) Short message service
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   (d) None

10. ———————— is a Commercial process that includes production distribution, sales or delivery of goods and services through electronic means
   (a) E-Commerce (b) SCM
   (c) EDI (d) None of the above

PART B — (5 × 5 = 25 marks)

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Each answer should not exceed 250 words.

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Or

(b) State the components of information Technology in details.

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15. (a) Write a short note on EDI.

Or

(b) Write a short note on GPRS.

PART C — (5 × 8 = 40 marks)

Answer ALL questions, choosing either (a) or (b).

Each answer should not exceed 600 words.

16. (a) Explain briefly about the role of information technology in the global world.

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Or

(b) Explain any three applications of Internet.

20. (a) Explain briefly about Smart Card.

Or

(b) Write a brief note on Nanotechnology.

———————

(6 pages) **Reg. No. :** .....

Code No. : 41360 E **Sub. Code : SMCA 33**

B.C.A. (CBCS) DEGREE EXAMINATION,
NOVEMBER 2018

Third Semester

Computer Applications – Main

INTRODUCTION TO INTERNET WITH HTML

(For those who joined in July 2017 onwards)

Time : Three hours Maximum : 75 marks

PART A — (10 × 1 = 10 marks)

Answer ALL questions.

Choose the correct answer :

1. The equipment needed to allow home computers to connect to the internet is called a

   (a) modem

   (b) gateway

   (c) monitor

   (d) peripheral

2. The acronym for SGML

   (a) Standard Geographic markup language

   (b) Standard Generalized markup language

   (c) Standard general menu language

   (d) Standard graphical markup language

3. Which tag is used to create title in HTML?

   (a) <HEAD> (b) <TEXT>

   (c) <TITLE> (d) <BODY>

4. The smallest heading level tag in HTML

   (a) h4 (b) h5

   (c) h6 (d) h1

5. <TITLE> ... </TITLE> tag must be Within

   (a) Title (b) Form

   (c) Header (d) Body

6. <UL>.....</UL> tag is used to _____

   (a) display the numbered list

   (b) underline the text

   (c) display the bulleted list

   (d) bold the text

7. Text Within <EM> ... </EM> tag is displayed as _____

(a) bold (b) italic

(c) list (d) indented

8. Which of the following attributes of the font tag is used to choose the type of font in HTML

(a) types (b) text type

(c) face (d) font type

9. Which of the following adds a plain text color to the background of a web page

(a) <body color =”#FF0000”>

(b) <body color =”3,454”>

(c) <body bgcolor =”#FF0000”>

(d) <body bgcolor =”36,24,35”>

10. Row attribute is used to create

(a) column

(b) horizontal frames

(c) vertical frames

(d) none

PART B — (5 × 5 = 25 marks)

Answer ALL questions, choosing either (a) or (b).

Each answer should not exceed 250 words.

11. (a) What is WWW? Explain it briefly.

Or

(b) Write a short note about Modem.

12. (a) Explain how link tag are used in HTML.

Or

(b) Write a sample HTML code representing head and body section.

13. (a) Briefly explain about Font tag in HTML.

Or

(b) Create a HTML document using unordered list.

14. (a) What are the features of DHTML. Explain.

Or

(b) Define a paragraph style with the font Times Romans fourteen points.

15. (a) Write a note on Frameset Definition.

Or

(b) Explain nested frameset with example.

PART C — (5 × 8 = 40 marks)

Answer ALL questions, choosing either (a) or (b).

Each answer should not exceed 600 words.

16. (a) What is a browser? Explain briefly about Browsers.

Or

(b) Explain about Internet Addressing.

17. (a) Explain briefly about Anchor tag.

Or

(b) How to create a colorful web page? Explain.

18. (a) Briefly explain about Heading tags and Horizontal tag.

Or

(b) Explain how to create table in HTML.

19. (a) Explain the elements of style in detail.

Or

(b) Illustrate the internal style with a suitable example.

20. (a) Explain briefly about <frame> in HTML.

Or

(b) Develop a set of frames to show your biodata.

———————

(6 pages) **Reg. No. :** .....

Code No. : 41358 E **Sub. Code : SMCA 31**

B.C.A (CBCS) DEGREE EXAMINATION,
NOVEMBER 2018.

Third Semester

Computer Application — Main

JAVA PROGRAMMING

(For those who joined in July 2017 onwards)

Time : Three hours Maximum : 75 marks

PART A — (10 × 1 = 10 marks)

Answer ALL questions.

Choose the correct answer :

1. How many primitive data types are there in java?

   (a) 6 (b) 7

   (c) 8 (d) 9

2. Which of these operations is used to allocate memory for an object?

   (a) malloc (b) alloc

   (c) calloc (d) new

3. What is the return type of a method that does not returns any value?

(a) int (b) float

(c) void (d) double

4. Which of the following is a method having same name as that of its class?

(a) finalize (b) delete

(c) class (d) construction

5. Variables included within an interface are

(a) final (b) finally

(c) finalize (d) private

6. The ———— method waits for the thread to die.

(a) join( ) (b) wait( )

(c) notify( ) (d) stop( )

7. The animation loop is usually written in ———— method.

(a) init( ) (b) stert( )

(c) run( ) (d) stop( )

8. The event listenet corresponding to handling keyboard events is the

(a) Key Listener

(b) Keyboard Listener

(c) Keys Listener

(d) KB Listener

9. The user interface component to displays a text string

(a) Event (b) Field

(c) String (d) Label

10. The ———— class represents individual items in a menu.

(a) Menu (b) Menu Bar

(c) Menu Item (d) Menu Edit

PART B — (5 × 5 = 25 marks)

Answer ALL questions choosing either (a) or (b).

Each answer should not exceed 250 words.

11. (a) Explain about the two types of java programs.

Or

(b) Discuss about lexical issue.

12. (a) Give an overview about constructors.

Or

(b) Write a note on command line arguments. give example java program.

13. (a) List down the most common types of exceptions that might occur in Java. Give examples.

Or

(b) What is finally block? When and how its is used? Give a suitable example.

14. (a) Discuss about the Byte stream classes.

Or

(b) Explain about Adapter classes.

15. (a) Explain about the class hierarchy for panel and frame.

Or

(b) Discuss about the draw line ( ) method.

PART C — (5 × 8 = 40 marks)

Answer ALL questions choosing either (a) or (b).

Each answer should not exceed 600 words.

16. (a) Discuss about the three OOP principles.

Or

(b) Explain about the bitwise operators in java.

17. (a) Discuss in detail about method overloading.

Or

(b) Explain about the Keyword 'Super'.

18. (a) Discuss in detail about package.

Or

(b) Write a java program to create multiple trends.

19. (a) Explain about the Applet display methods.

Or

(b) Discuss about the mouselistener interface.

20. (a) Explain about Frame windows.

Or

(b) Discuss about the different types of controls supports AWT.

———————

(6 pages) **Reg. No. :** .....

Code No. : 41357 E **Sub. Code : SMCA 21**

B.C.A. (CBCS) DEGREE EXAMINATION,
NOVEMBER 2018.

Second Semester

Computer Application — Main

OBJECT ORIENTED PROGRAMMING WITH C++

(For those who joined in July 2017 onwards)

Time : Three hours Maximum : 75 marks

SECTION A — (10 × 1 = 10 marks)

Answer ALL questions.

Choose the correct answer :

1. Insulation of program from direct access by the program is called _____

   (a) Abstraction (b) encapsulation

   (c) data hiding (d) inheritance

2. Which one of the following operator used to declare a pointer to a member of a class?

   (a) * (b) ->*

   (c) ::* (d) . *

3. Which one of the following refers to the use of same thing for different purposes?

(a) Const

(b) prototype

(c) overloading

(d) default arguments

4. A copy of the entire object is passed to the function is called as _____

(a) Pass-by-value

(b) pass-by-reference

(c) static

(d) function overloading

5. Which one of the following never takes any argument and does not return any value?

(a) default

(b) parameterized

(c) destructor

(d) constructor

6. Unary operators overloaded by means of a friend function, take ———————— reference argument.

(a) zero (b) one

(c) two (d) three

7. Properties of one class may be inherited by more than one class is called as _____ inheritance.

(a) Single (b) multilevel

(c) multiple (d) hierarchical

8. A class can contain objects of the other class is known as _____

(a) nesting

(b) containership

(c) class

(d) all of the above

9. Which one of the following function reads a whole line of text that ends with a newline character?

(a) Get( ) (b) gets( )

(c) getline( ) (d) all of the above

10. Which one of the following function moves the put pointer to a specified location?

(a) Seekg( ) (b) seekp( )

(c) tellg( ) (d) tellp( )

SECTION B — (5 × 5 = 25 marks)

Answer ALL questions choosing either (a) or (b).

Each answer should not exceed 250 words.

11. (a) Discuss in detail about structure of c++ program.

Or

(b) Discuss in detail about memory management operator with an example program.

12. (a) Explain in detail about math library functions with an example.

Or

(b) Explain in detail about static member functions with an example.

13. (a) Elucidate in detail about dynamic constructor with an example program.

Or

(b) Elucidate in detail about any three string functions with an example.

14. (a) Describe in detail about multiple inheritance with an example program.

Or

(b) Describe in detail about virtual base class with an example.

15. (a) How will you managing output with manipulators. Analyze it with an example.

Or

(b) Analyze in detail about the following (i)eof( ) (ii) fail( ) (iii) bad( ) (iv) good( )

SECTION C — (5 × 8 = 40 marks)

Answer ALL questions choosing either (a) or (b).

Each answer should not exceed 600 words.

16. (a) Discuss in detail about the benefits and applications of object oriented Programming.

Or

(b) Discuss in detail about the following

(i) type cast operator

(ii) member dereferencing operator

17. (a) Describe in detail about pass by reference and pass by value with an example program

Or

(b) Describe in detail about objects as arguments with an example program.

18. (a) Illustrate overloaded constructor with an example program.

Or

(b) Illustrate type conversions with an example program.

19. (a) Elucidate hybrid inheritance with an example program.

Or

(b) Elucidate abstract class with an example program.

20. (a) Exemplify functions for manipulations of file pointers with an example program.

Or

(b) How would you opening and closing a file. Exemplify with an example.

———————

(6 pages) **Reg. No. :** .....

Code No. : 41356 E **Sub. Code : SMCA 11**

B.C.A. (CBCS) DEGREE EXAMINATION,
NOVEMBER 2018.

First Semester

Computer Applications — Main

PROGRAMMING IN 'C'

(For those who joined in July 2017 onwards)

Time : Three hours Maximum : 75 marks

PART A — (10 × 1 = 10 marks)

Answer ALL questions.

Choose the correct answer :

1. The increment and decrement operators can be used ———— type.

   (a) int, long (b) short

   (c) float (d) both (a) and (b)

2. Every statement in a C program must end with

   (a) ; (b) :

   (c) , (d) .

3. ———————— statement branch unconditionally one point to another in a program.

(a) abort (b) if

(c) switch (d) goto

4. Which is exit control loop?

(a) for (b) do..while

(c) while (d) none

5. Array is ———————— data type.

(a) fundamental (b) user-defined

(c) derived (d) none

6. The strcmp function returns ———————— when two strings are equal.

(a) null (b) zero

(c) true (d) positive

7. ———————— reduce the length and complexity of program.

(a) array (b) union

(c) structure (d) function

8. A main program can have at most ———— number of functions.

(a) 2 (b) 5

(c) 10 (d) no limit

9. Pointer declaration should start with the symbol

(a) # (b) @

(c) & (d) *

10. In pointer the operator * indicates ———— of variable

(a) address (b) location

(c) content (d) none of these

PART B — (5 × 5 = 25 marks)

Answer ALL questions choosing either (a) or (b).

Each answer should not exceed 250 words.

11. (a) Write a C program to check whether the given year is LEAP or not.

Or

(b) Discuss data types in C.

12. (a) Explain conditional operator in C.

Or

(b) Explain any two forms of if statement.

13. (a) Write a C program to check whether two string are equal or not.

Or

(b) Write a C program to find the smallest element in an array.

14. (a) Write a C program to find the factorial of given number using recursion.

Or

(b) How to declare and call a function in C?

15. (a) Explain the concept of Pointers in C

Or

(b) Write a C program to implement call by value.

PART C — (5 × 8 = 40 marks)

Answer ALL questions choosing either (a) or (b).

Each answer should not exceed 600 words.

16. (a) Explain all operators in C.

Or

(b) Write a C program to check whether the given number is Armstrong or not.

17. (a) Write a C program to find the sum of first N Even natural numbers using while statement.

Or

(b) Explain switch statement with suitable example.

18. (a) Write a C program to find the sum of diagonals of a matrix.

Or

(b) Explain any five string handling functions.

19. (a) Write a C program to implement user defined functions.

Or

(b) Explain the scope and life time of variables.

20. (a) Explain array of pointers with suitable example.

Or

(b) Write a program using pointers to determine the length of a character string.

———————

(6 pages) **Reg. No. :** .....

Code No. : 41361 E **Sub. Code : SSCA 3 A**

B.C.A. (CBCS) DEGREE EXAMINATION,
NOVEMBER 2018.

Third Semester

Computer Application – Main

Skill Based Subject – PROGRAMMING WITH PHP AND MYSQL

(For those who joined in July 2017 onwards)

Time : Three hours Maximum : 75 marks

PART A — (10 × 1 = 10 marks)

Answer ALL questions.

Choose the correct answer :

1. Expand PHP

   (a) Processor Home Page

   (b) Hypertext Processor

   (c) Pretext Hypertext Processor

   (d) Preprocessor Home Page

2. PHP scripts are enclosed with in ————————.

(a) <php>...</php> (b) <?php....?>

(c) <php...<php (d) ...

3. Which built-in function will add a value to end of an array?

(a) array–unshift( ) (b) into–array( )

(c) inend–array( ) (d) array–push( )

4. PHP sessions are created using the ———————— function.

(a) session–starts( ) (b) sessions–start( )

(c) session–start( ) (d) none

5. Which one of the following function is capable of reading a specific number of characters from a file?

(a) fgets( ) (b) fget( )

(c) fileget( ) (d) filegets( )

6. The ———————— function checks if the "end-of-file" (EOF) has been reached.

(a) f_eof( ) (b) f_of( )

(c) feofs_( ) (d) feof( )

7. Which "text-type" has minimum number of bytes?

(a) Tiny Text (b) Text

(c) Medium Text (d) Long Text

8. What values does the count (*) function ignore?

(a) Repetitive values (b) Null values

(c) Character (d) Integers

9. How much character are allowed to create database name?

(a) 55 (b) 72

(c) 64 (d) 40

10. Which of the following statements can be checked for errors?

(a) Create (b) Drop

(c) Delete (d) Insert

PART B — (5 × 5 = 25 marks)

Answer ALL questions, choosing either (a) or (b).

Each answer should not exceed 250 words.

11. (a) Write short notes about History of PHP.

Or

(b) Discuss the break and continue statements in php with example.

12. (a) Write notes about date and time functions in php.

Or

(b) Briefly explain recursive functions in php with example.

13. (a) Write about reading text from file using fgets in php with example.

Or

(b) Write notes about locking files in php with example.

14. (a) Define join in mySQL and briefly explain its types.

Or

(b) Write about sorting and filtering retrieved data in mySQL.

15. (a) Briefly explain about connecting mySQL with php database connectivity.

Or

(b) Discuss about debugging in php.

PART C — (5 × 8 = 40 marks)

Answer ALL questions, choosing either (a) or (b).

Each answer should not exceed 600 words.

16. (a) Explain about various conditional statements in php with example.

Or

(b) Define operators and explain various types of operators in php with example.

17. (a) Define arrays and explain about its processing with example.

Or

(b) Explain about sessions in php.

18. (a) Write about getting information From File using stat and fseek in php with example.

Or

(b) Explain about how to read or write binary file in php with example.

19. (a) Explain about various MySQL datatypes.

Or

(b) Explain creation and Manipulation of tables in MySQL.

20. (a) Explain about Error handling in php with example.

Or

(b) Write about various Data and Time functions in MySQL.

———————

Answer ALL questions, choosing either (a) or (b).

Each answer should not exceed 600 words.

16. (a) Explain in detail about GDI.

Or

(b) Explain in detail about the creation of dialog boxes.

17. (a) Write a VC++ program for displaying text and messages on dialog box.

Or

(b) Explain in detail about combining static text and edit boxes.

18. (a) Write a VC++ program to create a resizable scroll bars.

Or

(b) Explain in detail about various mouse events.

19. (a) Explain in detail about document view architecture.

Or

(b) Compare and contrast SDI and MDI.

20. (a) Explain in detail about database exceptions.

Or

(b) Discuss about automation server.

Code No. : 7380 **Sub. Code : HCAM 33**

M.C.A. (CBCS) DEGREE EXAMINATION,
APRIL 2018.

Third Semester

Computer Applications

VISUAL PROGRAMMING

(For those who joined in July 2012-2015)

Time : Three hours Maximum : 75 marks

PART A — (10 × 1 = 10 marks)

Answer ALL questions.

Choose the correct answer :

1. Which language VC++ supports?
   (a) C/C++ (b) Java
   (c) Perl (d) .Net

2. VC++ was developed by
   (a) IBM (b) Microsoft
   (c) Apple (d) Macintosh

3. Which window is used to display information to the user?
   (a) Dialog box (b) Form
   (c) Property window (d) Alert window

4. _____ is the parent class of CButton.
(a) CWin (b) CWnd
(c) CSocket (d) None

5. _____ is used to display the text.
(a) Static control (b) Cstatic
(c) Edit control (d) None

6. Which function is used to set the color of the text?
(a) crEdit Color (b) crText
(c) crText color (d) crEdit Text

7. Win32 API supports
(a) 16 bit windows (b) 32 bit windows
(c) 64 bit windows (d) All of these

8. _____ function provides CWinApp to display on screen.
(a) Start( ) (b) InitApplication( )
(c) Load( ) (d) None

9. Which class helps to create a windows frame?
(a) CFrameWnd (b) CMainFrame
(c) CmainWnd (d) None of the above

10. _____ is the vertical scroll message handler.
(a) WM_VSCROLL (b) WM_HSCROLL
(c) WM_HVSCROLL (d) WM_VHSCROLL

PART B — (5 × 5 = 25 marks)

Answer ALL questions, choosing either (a) or (b).

Each answer should not exceed 250 words.

11. (a) Write a note on registering the window class.

Or

(b) Explain about the functions used for displaying the windows.

12. (a) Write down the features of scrollbar.

Or

(b) Write the commonly used text output function in GDI.

13. (a) Write a note on CSroll viewclass.

Or

(b) Explain about ActiveX controls

14. (a) Write a short note on working with images.

Or

(b) Write a note on creating and managing multiple views without splitters.

15. (a) How to control view creation and activation?

Or

(b) Write a detailed note on serialization process.

(6 pages)

Reg. No. : .....

Code No. : 7381 **Sub. Code : HCAM 34**

M.C.A. (CBCS) DEGREE EXAMINATION,
APRIL 2018.

Third Semester

Computer Applications

MICRO PROCESSORS AND ITS APPLICATIONS

(For those who joined in July 2012 – 2015)

Time : Three hours Maximum : 75 marks

PART A — (10 × 1 = 10 marks)

Answer ALL questions.

Choose the correct answer :

1. Microprocessor can read /write to and from the

(a) memory

(b) processor

(c) register

(d) I/O device

2. INTR interrupt is masked using the flag called

(a) interrupt

(b) overflow

(c) sign

(d) direction

3. Segment registers in 8086 as

(a) 3 (b) 4

(c) 5 (d) 2

4. SF refers to

(a) Service flag

(b) Sign flag

(c) Segment flag

(d) None of the above

5. Speed of microprocessor depends on

(a) clock

(b) data bus width

(c) data length

(d) address bus width

6. _____ processor structure follows pipeline operation.

(a) x86 (b) x64

(c) x85 (d) None of the above

7. Which of the following is software interrupt?

(a) INTR (b) RST 0-7

(c) TRAP (d) RST 4.4

8. SIM refers to

(a) Set Interrupt Mask

(b) Sort Interrupt Mask

(c) Sign Interrupt Mask

(d) Set Integer Mask

9. The flow of address bus is

(a) Unidirection

(b) bidirection

(c) multidirection

(d) circular shift

10. Pentium microprocessors are developed by

(a) HCL (b) Intel

(c) Microsoft (d) Dell

PART B — (5 × 5 = 25 marks)

Answer ALL questions, choosing either (a) or (b).

Each answer should not exceed 250 words.

11. (a) Write a note on various addressing modes.

Or

(b) What is the purpose of assembler directives?

12. (a) Draw the pin diagram of 8086.

Or

(b) Write a note on timings for RG/GT signals.

13. (a) Explain about timer.

Or

(b) Write a short note interrupt controller.

14. (a) Write a note on mode of operation.

Or

(b) Explain about protection.

15. (a) Write a note on bus standards.

Or

(b) Explain universal serial bus in detail.

PART C — (5 × 8 = 40 marks)

Answer ALL questions, choosing either (a) or (b).

Each answer should not exceed 600 words.

16. (a) Explain the signal description of 8086 microprocessor.

Or

(b) Compare and contrast machine language programming and assembly language programming.

17. (a) Draw and explain the signal groups of 8086.

Or

(b) Briefly explain the minimum mode 8086 system.

18. (a) Briefly explain memory and I/O interfacing.

Or

(b) Write a detailed note on keyboard / display controller.

19. (a) Explain in detail about register organization of 8086.

Or

(b) Discuss about the features of pentium.

20. (a) Explain in detail about peripheral component interconnect.

Or

(b) Explain about platform architecture.

———————

(6 pages) Reg. No. : .....

Code No. : 7385 **Sub. Code : HCAM 43**

M.C.A. (CBCS) DEGREE EXAMINATION,
APRIL 2018.

Fourth Semester

Computer Applications

ORACLE

(For those who joined in July 2012–2015)

Time : Three hours Maximum : 75 marks

PART A — (10 × 1 = 10 marks)

Answer ALL questions.

Choose the correct answer.

1. The equal sing (=) is called a
   (a) Relational operator
   (b) Logical operator
   (c) Arithmetic operator
   (d) Symbols

2. The function which has an unique property, to tell how many rows are in the table is
   (a) SUM (b) AVG
   (c) COUNT (d) NULL

3. A query used to determine which values in one table do not have matching values in another table
   (a) NOT EXISTS (b) NOT IN
   (c) NOT (d) None of the above

4. The _____ is the column or columns by which the tables are usually joined in a query.
   (a) sequences (b) indexes
   (c) clusters (d) tables

5. An array which allows to store repeating attributes of a record in a single row
   (a) Nested table (b) Dynamic array
   (c) Primary array (d) Varying array

6. The SQL loader keyword used to give the number of logical rows to load is
   (a) Append (b) All
   (c) Load (d) All of the above

7. A parameter which attaches the client to a server session and places in an interactive mode

(a) ACTIVE (b) ATTACH

(c) CONNECT (d) MODE

8. To access an external file, the command used to define a directory object pointing to the external files location is

(a) organize external

(b) tables

(c) UPDATE

(d) create directory

9. PL/SQL block is terminated by the keyword

(a) end (b) stop

(c) return (d) null

10. An action the database should take when some database related event occurs is

(a) Cursor management

(b) Table management

(c) Materialized view

(d) Trigger

PART B — (5 × 5 = 25 marks)

Answer ALL the questions, choosing either (a) or (b).

Each answer should not exceed 250 words.

11. (a) Write a note on commit statements with example.

Or

(b) Discuss about Normalization.

12. (a) Give an account on the use of group by with example.

Or

(b) Explain about clusters.

13. (a) Write a note on Abstract data types used.,

Or

(b) Discuss about Removing password from a role.

14. (a) Explain how a database link works.

Or

(b) Discuss about the types of materialized views.

Answer ALL the questions, choosing either (a) or (b).

Each answer should not exceed 600 words.

16. (a) Write short notes on :

(i) Foreign key

(ii) Check constraint.

Or

(b) Explain Indexes in Oracle.

17. (a) How are values replaced through DECODE? Explain with example.

Or

(b) Write the syntax for outer joins and explain with examples.

options.

Or

(b) Explain the syntax for Database links.

20. (a) Write about the Exception handling in PL/SQL.

Or

(b) Discuss about Cursor management.

(6 pages)

Reg. No. : .....

Code No. : 7413 **Sub. Code : KCAM 35**

M.C.A. (CBCS) DEGREE EXAMINATION,
APRIL 2018.

Third Semester

Computer Applications

OBJECT ORIENTED ANALYSIS AND DESIGN
USING UML

(For those who joined in July 2016 and afterwards)

Time : Three hours Maximum : 75 marks

PART A — (10 × 1 = 10 marks)

Answer ALL questions.

Choose the correct answer :

1. A formal class also called an _____ class.

(a) Property (b) Method

(c) Object (d) Abstract

2. _____ inheritance allows objects to change and evolve over time.

(a) Static (b) Dynamic

(c) Multiple (d) Multilevel

3. _____ specifies the range of allowable associated classes.

(a) Notation (b) Qualifier

(c) Multiplicity (d) Association

4. The UML class diagram, also referred to as _____ modeling.

(a) Object (b) Class

(c) Case (d) Component

5. _____ represents a physical connection between two or more objects.

(a) Class (b) Patterns

(c) Association (d) Guidelines

6. The parent class also is known as the _____.

(a) Child (b) Sub

(c) High (d) Ancestor

7. _____deals with interactions between objects or software components.

(a) Coupling (b) Cohesion

(c) Corollary (d) Data

8. The rules and semantics of the UML are expressed in a form known as _____.

(a) TCL (b) UCL

(c) OCL (d) PCL

9. The code must be free of errors or bugs that cause unexpected results, a process called _____.

(a) Testing

(b) Debugging

(c) Run-time errors

(d) Logic errors

10. The detection and elimination of the logical bug is the process of _____.

(a) Debugging (b) Syntax error

(c) Assurance (d) Testing

PART B — (5 × 5 = 25 marks)

Answer ALL questions, choosing either (a) or (b).

Each answer should not exceed 250 words.

11. (a) Write a note on orthogonal views of the software.

Or

(b) Explain about static and dynamic binding.

12. (a) List down the four primary symbols for Data flow diagrams.

Or

(b) Write a note on UML Dynamic modeling.

13. (a) Why is documentation an important part of analysis?

Or

(b) Write down the guidelines for selecting classes in an application.

14. (a) Discuss about the different types of coupling.

Or

(b) Explain the three basic types of attributes.

15. (a) Explain about Quality Assurance Tests.

Or

(b) Write a note on cryptanalysis.

PART C — (5 × 8 = 40 marks)

Answer ALL questions, choosing either (a) or (b).

Each answer should not exceed 600 words.

16. (a) Briefly explain about superclass-subclass hierarchy.

Or

(b) Discuss about object-oriented SDLC.

17. (a) Explain in detail about the Booch methodology.

Or

(b) Describe about UML diagrams.

18. (a) Give an overview about common class patterns approach.

Or

(b) Discuss about Aggregation.

19. (a) Explain about Object-Relational systems.

Or

(b) Briefly explain about Micro-level process.

20. (a) Discuss about different testing strategies.

Or

(b) Give an overview about Rational Rose Suite.

———————

(6 pages) Reg. No. : .....

Code No. : 7418 **Sub. Code : KCAE 42**

M.C.A. (CBCS) DEGREE EXAMINATION,
APRIL 2018.

Fourth Semester

Computer Applications

Elective — SOFT COMPUTING

(For those who joined in July 2016 and afterwards)

Time : Three hours Maximum : 75 marks

PART A — (10 × 1 = 10 marks)

Answer ALL questions.

Choose the correct answer:

1. The strength of the methodology neural network is _____

(a) Learning and adaptation
(b) Symbolic Manipulation
(c) Systematic Random Search
(d) None

2. Soft computing is apparently evolving under AI influences that sprang from _____.

(a) Knowledgenetics (b) Cybernetics
(c) Internetics (d) None

3. Expand TSP _____.

(a) Travelling Scheduling Problem
(b) Travelling Scheduling Process
(c) Travelling Salesman Problem
(d) None of the above

4. Genetic algorithm encode each point in a parameter space into a binary bit string called a _____.

(a) chromosome (b) pixel
(c) both (a) and (b) (d) none

5. The procedure of finding a gradient vector in a network structure is generally referred to as _____.

(a) front propagation
(b) back propagation
(c) both (a) and (b)
(d) None

6. The simplest and most well known pattern recognition problem in neural network literature is the _____ problem.

(a) OR (b) XNOR

(c) XOR (d) None

7. A _____, is a set without a crisp boundary.

(a) classical set (b) fuzzy set

(c) both (a) and (b) (d) none

8. Fuzzy Inference system is also known as fuzzy _____.

(a) Rule based system

(b) Model

(c) Expert system

(d) All the above

9. CART stands for _____.

(a) Classification And Regression Tree

(b) Coactive And Regression Tree

(c) Classification And Relational Tree

(d) None of the above

10. An _____ node is decision making unit that evaluates a decision function to determine which child node to visit next.

(a) External (b) Terminal

(c) Leaf (d) Internal

PART B — (5 × 5 = 25 marks)

Answer ALL questions, choosing either (a) or (b).

Each answer should not exceed 250 words.

11. (a) What is soft computing? Differentiate with hard computing.

Or

(b) Tabulate the strength of the soft computing constituents and conventional AI.

12. (a) What are the significance of Genetic operators?

Or

(b) Explain the working principle of Genetic Algorithm.

13. (a) What is Adaptive Resonance Architecture?

Or

(b) What is Hebbian Learning?

14. (a) Explain TSUKAMOTO fuzzy model.

Or

(b) Give a brief note on Fuzzy expert systems.

15. (a) What is Inverse Learning?

Or

(b) What is K-means clustering?

PART C — (5 × 8 = 40 marks)

Answer ALL questions, choosing either (a) or (b).

Each answer should not exceed 600 words.

16. (a) Give a brief note on soft computing constituents and conventional Artificial Intelligence.

Or

(b) List out and explain the characteristics of Neuro Fuzzy and Soft Computing.

17. (a) Write short note on the following.

(i) Applications of Genetic Algorithm.

(ii) Differences and similarities between Genetic Algorithm and other Traditional Methods.

Or

(b) How do you solve Job Shop Scheduling Problem using Genetic Algorithm?

18. (a) Explain about BPN with it's algorithm.

Or

(b) Explain Radial Basics function Networks in Supervised Learning Neural Networks.

19. (a) Discuss (i) Fuzzification (ii) Defuzzification.

Or

(b) Explain Fuzzy if-then rules in detail.

20. (a) What is Rule base structure Identification? Explain it in detail.

Or

(b) Give a brief note on Adaptive Neuro-fuzzy Inference systems.

———————

(6 pages)

Reg. No. : .....

Code No. : 7389 **Sub. Code : HCAE 44**

M.C.A. (CBCS) DEGREE EXAMINATION,
APRIL 2018.

Fourth Semester

Computer Applications

Elective — NETWORK SECURITY AND CRYPTOGRAPHY

(For those who joined in July 2012 – 2015)

Time : Three hours Maximum : 75 marks

PART A — (10 × 1 = 10 marks)

Answer ALL questions.

Choose the correct answer :

1. _____ means that the information created and stored by an organization needs to be available to authorized entities.

(a) Confidentiality (b) Integrity

(c) Availability (d) All the above

2. In _____ attack, it may slow down or totally interrupt the service of a system.

(a) Denial of service (b) Passive

(c) Active (d) None

3. The _____ key generator creates sixteen 48 bit keys out of 56 bit cipher key.

(a) Circle (b) Round

(c) Square (d) None

4. _____, in this approach, we use two instances of DES ciphers for encryption and two instances of reverse ciphers for decryption.

(a) Double DES (b) Quad DES

(c) Both (a) and (b) (d) None

5. Say True or False :

A symmetirc key cryptography uses two separate keys: One private and one public.

(a) True (b) False

6. The attack based on the fast-exponential algorithm is _____ attack.

(a) Timing

(b) Unconnected message

(c) Both (a) and (b)

(d) None

7. A signed document needs to be times tamped to prevent it from being replayed by an adversary is called ———— Digital signature scheme.

(a) Time stamped (b) Elliptic curve

(c) Both (a) and (b) (d) None

8. DSS stands for

(a) Digital Signature Standard

(b) Digital Standard Signature

(c) Digital Signature Service

(d) None

9. The ———— server provides services for the user.

(a) Real (b) Ticket granting

(c) Authentication (d) None

10. ———— protocol uses messages to negotiate to cipher suite, to authenticate the server to the client and the client to the server if needed, and to exchange information for building the cryptographic secrets.

(a) Record (b) Change Cipherspec

(c) Alert (d) Hand shake

PART B — (5 × 5 = 25 marks)

Answer ALL questions, choosing either (a) or (b), each answer should not exceed 250 words.

11. (a) Explain the security and goal implementation technique cryptography in detail.

Or

(b) List out and explain the three types of security goals.

12. (a) Discuss in detail about DES weakness.

Or

(b) Explain initial and final permutations in DES structure.

13. (a) Give a brief note on message authentication code.

Or

(b) Write short notes on modification detection code.

14. (a) What is the use of One Time Password?

Or

(b) Give a brief note on process in Digital signature.

15. (a) What is KERBEROS? Give a brief note on it.

Or

(b) What are the different types of Handshake messages? Explain any five.

PART C — (5 × 8 = 40 marks)

Answer ALL questions, choosing either (a) or (b), each answer should not exceed 600 words.

16. (a) Give a brief note on Transposition ciphers in detail.

Or

(b) What is an attack? Explain attacks threatening Integrity and availability in detail.

17. (a) Discuss in detail about use of modern block ciphers.

Or

(b) What is Multiple DES? Explain double and Triple DES in detail.

18. (a) What is RSA cryptosystem? Explain it in detail.

Or

(b) Give a brief note on procedure of RABIN cryptosystem.

19. (a) What are the different types of digital signature schemes available? Explain it in detail.

Or

(b) Write short note on challenges response in entity authentication.

20. (a) What is symmetric –key agreement? Give a brief note on it.

Or

(b) What are the four protocols available in SSL? Explain each one of them.

———————

(6 pages) Reg. No. : .....

Code No. : 7391 **Sub. Code : HCAM 51**

M.C.A. (CBCS) DEGREE EXAMINATION,
APRIL 2018.

Fifth Semester

Computer Applications

.NET PROGRAMMING

(For those who joined in July 2012-2015)

Time : Three hours Maximum : 75 marks

PART A — (10 × 1 = 10 marks)

Answer ALL questions.

Choose the correct answer:

1. By default, ASP.NET store session IDS in _____.

(a) Cookies

(b) Cache

(c) Database

(d) None of the above

2. _____ is a member of ADODBC command object.

(a) Execute Reader

(b) Stream

(c) Open list

(d) None of the above

3. Which DLL translate XML to SQL in IIS?

(a) SQLIIS dll

(b) SQLXML. dll

(c) LISXML. dll

(d) SQL|SAPI. dll

4. Where is the default session data is stored in ASP.Net?

(a) Inprocess

(b) State server

(c) Session object

(d) None of the above

5. The number of forms that can be added to a aspx page is

(a) 1 (b) 2

(c) 3 (d) More than 3

6. The first event to be trigger in aspx page is

(a) Page_load ( )

(b) Page_Init ( )

(c) Page_Click ( )

(d) Page_Open ( )

7. The ASP.Net server control, display text on web page is

(a) <asp : label>

(b) <asp : listen>

(c) <asp : button>

(d) <asp : switch>

8. How many classes can a single .NET DLL contain?

(a) One (b) Two

(c) None (d) Many

9. In .NET the operation of reading metadata and using its contents is known as ————————.

(a) Reflection (b) Binding

(c) Enumeration (d) None of the above

10. The .Net framework provide a runtime environment called .....?

(a) RMT (b) RC

(c) CLR (d) None of the above

PART B — (5 × 5 = 25 marks)

Answer ALL questions, choosing either (a) or (b).

Each answer should not exceed 250 words.

11. (a) Explain the syntax to declare a name space in .NET.

Or

(b) Explain ADO.NET.

12. (a) What is code contracts?

Or

(b) What is common type system?

13. (a) How would you connect to a database by using .NET?

Or

(b) Which namespaces in .NET are used XML?.

14. (a) Explain role of CLR.

Or

(b) How does code Access Security Works?

15. (a) What is Manifest?

Or

(b) What is NET framework?

PART C — (5 × 8 = 40 marks)

Answer ALL questions, choosing either (a) or (b).

Each answer should not exceed 600 words.

16. (a) Explain concept of web services in brief.

Or

(b) What is datatypes and its types.

17. (a) What are improvements in CAS in .NET 4.0?

Or

(b) Explain New features in ADO.NET entity framework 4.0.

18. (a) Compare the features of ASP. NET with ASP.

Or

(b) Explain the detail in exception handling in ADO.NET.

19. (a) Compare the features of ADO.NET with ADO.

Or

(b) Short note on XML in .NET and explain to read data from XML file using ASP.NET.

20. (a) Discuss about ADO.NET in brief and its uses.

Or

(b) Describe how the data are accessed using ADO.NET.

———————

(6 pages) **Reg. No. :** .....

Code No. : 7395 **Sub. Code : HCAE 52**

M.C.A. (CBCS) DEGREE EXAMINATION,
APRIL 2018.

Fifth Semester

Computer Applications

Elective — DIGITAL IMAGE PROCESSING

(For those who joined in July 2012-2015)

Time : Three hours Maximum : 75 marks

PART A — (10 × 1 = 10 marks)

Answer ALL questions.

Choose the correct answer :

1. The field of digital image processing refers to processing ———— by means of digital computer.

   (a) normal image

   (b) digital images

   (c) original image

   (d) histogram

2. Each bundle of energy is called ————.

   (a) Ultra violet (b) Gamma ray

   (c) Photon (d) Radiance

3. One of the most commercially successful and beneficial uses of imagesubtraction is in the area of medical imaging called ————.

   (a) Mask mode radiography

   (b) Mask image

   (c) Fractral image

   (d) Histogram

4. The values in a filter subimage are referred to as ———— rather than pixels.

   (a) coefficients

   (b) frequency domain

   (c) linear spatial

   (d) response

5. A filter that attenuates high frequencies while "passing" frequencies is called a ———— filter.

   (a) highpass

   (b) lowpass

   (c) notch filter

   (d) none of the above

6. When the Fourier spectrum of noise is constant, the noise usually is called _____.

(a) White noise (b) Spatial noise

(c) Gaussian noise (d) Erlang noise

7. The term _____ refers to the process of reducing the amount of data required to represent a given quantity of information.

(a) Data Redundancy

(b) Data Compression

(c) Data loss

(d) None of the above

8. The _____ contains only two components such as symbol decoder and inverse mapper.

(a) Source decoder (b) Source encoder

(c) Quantizer (d) Symbol coder

9. Any point (x, y) for which $f(x, y) > T$ is called an object point: otherwise, the point is called a _____.

(a) Point detection

(b) Line detection

(c) Edge detection

(d) Background point

10. _____ is a procedure that group's pixels or sub regions into larger regions based on predefined criteria.

(a) Threshold

(b) Region growing

(c) Seed regions

(d) None of the above

PART B — ($5 \times 5 = 25$ marks)

Answer ALL questions, choosing either (a) or (b).

Each answer should not exceed 250 words.

11. (a) Write note on components of an image processing system.

Or

(b) Write note on (i) Neighbors of a pixel (ii) Distance measures.

12. (a) Explain about basics of spatial filtering.

Or

(b) Write about piecewise-linear transformation function.

13. (a) Explain about A model of the image degradation/restoration process.

Or

(b) Describe about order statistics filter.

14. (a) Write note on coding redundancy.

Or

(b) Explain about the source encoder and decoder.

15. (a) Explain about basic global thresholding.

Or

(b) Describe about basic adaptive thresholding.

PART C — (5 × 8 = 40 marks)

Answer ALL questions choosing either (a) or (b).

Each answer should not exceed 600 words.

16. (a) What are the fundamental steps in digital image processing? Explain.

Or

(b) Explain in detail about adjacency, connectivity, regions, and boundaries.

17. (a) Write note on log transformations.

Or

(b) Describe about Histogram matching.

18. (a) Write about ideal low pass filters.

Or

(b) Explain about Adaptive Filters.

19. (a) Elucidate Huffman coding.

Or

(b) Write down the binary image compression standards.

20. (a) Explain about detection of discontinuities.

Or

(b) Write in detail about region-based segmentation.

———————

(6 pages) Reg. No. : .....

Code No. : 7392 **Sub. Code : HCAM 52**

M.C.A. (CBCS) DEGREE EXAMINATION,
APRIL 2018.

Fifth Semester

Computer Applications

DATA MINING AND WARE HOUSING

(For those who joined in July 2012-2015)

Time : Three hours Maximum : 75 marks

PART A — (10 × 1 = 10 marks)

Answer ALL questions.

Choose the correct answer :

1. ODS stands for

(a) Operational Definition Service

(b) Online Definition Service

(c) Operational Data Store

(d) None

2. As essential process where intelligent methods are applied to extract data patterns.

(a) Data ware housing

(b) Data mining

(c) Text mining

(d) Data selection

3. A class of learning algorithm that tries to find an optimum classification of a set of examples using the probabilistic theory is

(a) Bayesian classifier

(b) Neural network

(c) Cluster

(d) None

4. The properties of entities are

(a) Tables (b) Attributes

(c) Groups (d) Graphs

5. A key which is used to represent a relationship between tables is called

(a) Attributes (b) Tables

(c) Foreign key (d) Primary key

6. Mining of data related to www is known as

(a) web content (b) web mining

(c) crawler (d) none

7. A technique that generates a binary decision tree is known as

(a) CART (b) KDD

(c) ODS (d) None of the above

8. Web pages are defined using

(a) Page maker (b) HTML

(c) Crawler (d) None

9. Expand CFC

(a) Context Focussed Crawler

(b) Crawler Form Common

(c) Character Focussed Crawler

(d) None

10. The process of provides the index and query interfaces are

(a) crawler (b) provider

(c) gatherer (d) broker

PART B — (5 × 5 = 25 marks)

Answer ALL questions, choosing either (a) or (b).

Each answer should not exceed 250 words.

11. (a) Discuss about the characteristics of dataware housing.

Or

(b) Write note on data mining.

12. (a) Give an account on The Induction Algorithm.

Or

(b) Discuss on Large item sets.

13. (a) Give a note on clustering.

Or

(b) Explain Naive-Bayes method.

14. (a) Give a note on HITS.

Or

(b) Discuss about clever.

15. (a) Explain spatial association rules.

Or

(b) Write a note on Quad Trees.

PART C — (5 × 8 = 40 marks)

Answer ALL questions choosing either (a) or (b).

Each answer should not exceed 600 words.

16. (a) Explain the dataware housing architecture.

Or

(b) Discuss on the data mining techniques.

17. (a) Explain split algorithm.

Or

(b) Discuss about the association rules of mining.

18. (a) Give a note on the issues of classifications.

Or

(b) Explain CART.

19. (a) Write a note on web structure mining.

Or

(b) Explain the three types of web page personalisation.

20. (a) Explain spatial queries.

Or

(b) Write a note on image database.

———————

(7 pages) **Reg. No. :** .....

Code No. : 7393 **Sub. Code : HCAM 53**

M.C.A. (CBCS) DEGREE EXAMINATION,
APRIL 2018.

Fifth Semester

Computer Applications

COMPUTER NETWORKS AND
NETWORK MANAGEMENT

(For those who joined in July 2012 – 2015)

Time : Three hours Maximum : 75 marks

PART A — (10 × 1 = 10 marks)

Answer ALL questions.

Choose the correct answer :

1. Data communications are transfer of data through some

   (a) Transmission medium

   (b) Linear medium

   (c) Network LAN

   (d) Protocols

2. The internet is an example of

   (a) cell switched network

   (b) circuit switched network

   (c) packet switched network

   (d) all the above

3. In ———— resources are allocated on demand.

   (a) datagram switching

   (b) circuit switching

   (c) frame switching

   (d) none of the above

4. A ———— network is a cross between a circuit-switched network arid a datagram network. It has some characteristics of both.

   (a) virtual-circuit (b) packet-switched

   (c) frame-switched (d) none of the above

5. In Carrier Sense Multiple Access (CSMA), possibility of collision still exist because of

   (a) Propagation delay

   (b) Collision delay

   (c) Sense delay

   (d) Transmit delay

6. In Ethernet frame, both destination and sender address contains

(a) 1 Byte (b) 2 Bytes

(c) 4 Bytes (d) 6 Bytes

7. The network layer concerns with

(a) bits

(b) frames

(c) packets

(d) none of the mentioned

8. ICMP is primarily used for

(a) error and diagnostic functions

(b) addressing

(c) forwarding

(d) none of the above

9. In Network Management System, maps track each piece of hardware and its connection to the

(a) IP Server

(b) Domain

(c) Network

(d) Data

10. SNMP is a framework for managing devices in an internet using the

(a) TCP/IP protocol

(b) UDP

(c) SMTP

(d) None of the above

PART B — (5 × 5 = 25 marks)

Answer ALL questions, choosing either (a) or (b).

Each answer should not exceed 250 words.

11. (a) State the reasons for using the layered protocols.

Or

(b) List the services provided by the application layer in the Internet model.

12. (a) What are the three major components of a telephone network?

Or

(b) Write the algorithm for computing the checksum.

13. (a) Describe the medium access technique with ALOHA.

Or

(b) Briefly explain about the functions of fast Ethernet.

14. (a) Discuss the features of packet switched network.

Or

(b) Elucidate the concepts of classful addressing with suitable example.

15. (a) Elaborate on network management mechanisms and standards.

Or

(b) Write short note on and policy control in network management.

PART C — ($5 \times 8 = 40$ marks)

Answer ALL questions, choosing either (a) or (b).

Each answer should not exceed 600 words.

16. (a) Compare the functionalities of layers in OSI model and the Internet model.

Or

(b) Explain about the different categories of transmission media with relevant diagrams.

17. (a) Elucidate the structure and functions of HDLC protocols in detail.

Or

(b) Elaborate the various error detection and correction techniques available for effective data transmission.

18. (a) Explain in detail about the layers and functions of ATM in detail.

Or

(b) Discuss the various Ethernet IAN standards and compare the performance of each.

19. (a) List and explain the functions of network layer protocols.

Or

(b) An organization is granted the block 16.0.0.0/8. The administrator wants to create 500 fixed-length subnets.

(i) Find the subnet mask

(ii) Find the number of addresses in each subnet

(iii) Find the first and last addresses in subnet I.

20. (a) Explain in detail about IP network management.

Or

(b) Discuss about the network management architecture with necessary diagrams.

(6 pages) **Reg. No. :** .....

Code No. : 9479 **Sub. Code : PCAM 33**

M.C.A. (CBCS) DEGREE EXAMINATION,
NOVEMBER 2018.

Third Semester

Computer Application

ADVANCED JAVA PROGRAMMING

(For those who joined in July 2017 onwards)

Time : Three hours Maximum : 75 marks

PART A — (10 × 1 = 10 marks)

Answer ALL questions.

Choose the correct answer :

1. ———————— is a process by which one object acquires the properties of another object.

   (a) interface

   (b) inheritance

   (c) polymorphism

   (d) none

2. ———————— is a special type for representing true/false values

(a) Boolean (b) Integer

(c) Character (d) None

3. ———————— class cannot be instantiated

(a) Final (b) Static

(c) Public (d) Abstract

4. ———————— interface is used to create a thread string.

(a) runnable (b) thread

(c) object (d) string

5. ———————— server speaks the client side of protocol to another servers.

(a) proxy (b) caching

(c) net (d) none

6. ———————— defines one method to recognize when a text value changes.

(a) key listener (b) mouse listener

(c) text listener (d) none

7. ———————— creates popup list.

(a) choice (b) checkbox

(c) event (d) none

8. ———————— Encapsulates a tree based control.

(a) tree (b) JTree

(c) add (d) none

9. ———————— is used to read data from a client request.

(a) Servlet Request

(b) Read()

(c) Response

(d) None

10. ———————— provides methods to handle HTTP requests and responses.

(a) Servlet (b) HTTP servlet

(c) String (d) None

PART B — (5 × 5 = 25 marks)

Answer ALL questions, choosing either (a) or (b).

Each answer should not exceed 250 words.

11. (a) Discuss about inheritance with simple example.

Or

(b) Discuss the use of Super keyword.

12. (a) How to use try and catch clause?

Or

(b) How to Importing a package with example?

13. (a) Discuss about any two controls in AWT.

Or

(b) Describe Mouse Event and their listeners.

14. (a) Write about the types of JDBC drivers.

Or

(b) How to Insert and Update the record?

15. (a) Write about the Advantages and Disadvantages of Servlets.

Or

(b) Write notes on cookies.

PART C — (5 × 8 = 40 marks)

Answer ALL questions, choosing either (a) or (b).

Each answer should not exceed 600 words.

16. (a) How to create Multilevel inheritance with examples?

Or

(b) Explain about classes and methods with example.

17. (a) Explain about Interface with example.

Or

(b) Discuss about an Applet Skeleton.

18. (a) Explain about event handling mechanism in java.

Or

(b) Discuss in detail about Layout manager.

19. (a) Explain JDBC Connection process.

Or

(b) Write a simple RMI client and server.

20. (a) Write steps to create a simple bean. Give example.

Or

(b) Explain session tracking.

———————

(6 pages) **Reg. No. :** .....

Code No. : 9478 **Sub. Code : PCAM 32**

M.C.A. (CBCS) DEGREE EXAMINATION,
NOVEMBER 2018.

Third Semester

Computer Application

COMPUTER GRAPHICS AND MULTIMEDIA

(For those who joined in July 2017 onwards)

Time : Three hours Maximum : 75 marks

PART A — (10 × 1 = 10 marks)

Answer ALL questions.

Choose the correct answer :

1. Translation distance pair (tx, ty) is called _____.

   (a) Shift Vector

   (b) Curved Object

   (c) Curve path

   (d) None

2. Every line point in a picture is assigned a four digit binary code is called ————————.

   (a) Region code (b) Template code

   (c) Intersect code (d) None

3. Back Face detection method is a ———————— method.

   (a) Image Space method

   (b) Object Space method

   (c) Origin Space method

   (d) None

4. ———————— transformation can be used to modify object shapes.

   (a) Reflection (b) Shears

   (c) Pipeline (d) None

5. ———————— is a system independent image format.

   (a) GIF (b) JPEG

   (c) PNG (d) TIFF

6. ———————— is a nonlinear medium.

   (a) Hypertext (b) Multimedia

   (c) Hypermedia (d) None

7. RTP stands for ————————.

(a) Real-Time Transport Protocol

(b) Real-Time Transmit Protocol

(c) Run-Time Transform Protocol

(d) None

8. RTP was developed by the audio-video transport working group of ————————.

(a) SIP (b) IETF

(c) RTCP (d) RTSP

9. Which presentation attribute is easy to read ————————.

(a) Consistency (b) Clarity

(c) Detectability (d) Legibility

10. ———————— format presents a model for the dynamic data.

(a) MHEG (b) QMFI

(c) DVI (d) None of these

PART B — (5 × 5 = 25 marks)

Answer ALL questions, choosing either (a) or (b).

Each answer should not exceed 250 words.

11. (a) Define window to viewport mapping? Discuss it.

Or

(b) Write about Virtual Reality environment.

12. (a) What is 3D viewing? Discuss viewing coordinates.

Or

(b) Write about 3D translation method.

13. (a) What are the multimedia applications?

Or

(b) Discuss about MIDI.

14. (a) Write about Raster Scanning principles.

Or

(b) Write about Video performance measurements.

15. (a) Discuss about multimedia architecture.

Or

(b) Write about multimedia Track model and Object model.

PART C — (5 × 8 = 40 marks)

Answer ALL questions, choosing either (a) or (b).

Each answer should not exceed 600 words.

16. (a) Explain about 2D Rotation and translation.

Or

(b) Discuss about picture construction techniques.

17. (a) Enumerate about Depth Buffer method with its implementation.

Or

(b) Discuss about scan line method with its implementation.

18. (a) Explain about Distributed multimedia system.

Or

(b) Discuss about multimedia synchronization.

19. (a) Explain the file formats used in multimedia implementation.

Or

(b) Enumerate about digital video and image compression. Discuss it.

20. (a) Discuss about multimedia conferencing architecture.

Or

(b) Discuss multimedia services with public network protocols.

———————

(6 pages) **Reg. No. :** .....

Code No. : 9447 **Sub. Code : KCAM 13/ PCAM 13**

M.C.A. (CBCS) DEGREE EXAMINATION, NOVEMBER 2018.

First Semester

Computer Applications

COMPUTER SYSTEM ARCHITECTURE

(For those who joined in July 2016 and afterwards)

Time : Three hours Maximum : 75 marks

PART A — (10 × 1 = 10 marks)

Answer ALL questions.

Choose the correct answer:

1. The base for the binary number system is _____.

(a) 2 (b) 10

(c) 16 (d) 8

2. In Boolean Algebra : $x + 0 =$ ————————.

   (a) 0 (b) x

   (c) 1 (d) none

3. A combinational circuit that performs the addition of two bits is called ————————.

   (a) Half Adder

   (b) Full Adder

   (c) Half Subtractor

   (d) Full subtractor

4. A ———————— sequential circuit is a system whose behaviour can be defined from the knowledge of its signals at discrete instants of time.

   (a) synchronous

   (b) asynchronous

   (c) both (a) and (b)

   (d) none

5. A ———————— field that specifies the way the operand or the effective address is determined.

   (a) Operation code (b) Address

   (c) Mode (d) None

6. In ———————— mode, the operand is specified in the instruction itself.

(a) Implied (b) Register

(c) Immediate (d) None

7. A ———————— command causes the interface to respond by transferring data from the bus into one of its registers.

(a) data output (b) data input

(c) status (d) control

8. In IOP, ———————— is used to transfer data from memory to I/O device.

(a) Read (b) Write

(c) Read backwards (d) Control

9. RAM stands for ————————.

(a) Random Access Memory

(b) Read Access Memory

(c) Relative Access Memory

(d) None

10. A memory unit accessed by content is called an ———————— memory.

(a) Associative (b) Content addressable

(c) Both (a) and (b) (d) None

PART B — (5 × 5 = 25 marks)

Answer ALL questions, choosing either (a) or (b).

Each answer should not exceed 250 words.

11. (a) What are the different types of logic gates available?

Or

(b) Give a brief note on the basic identities of Boolean Algebra.

12. (a) Explain JK flip-flop in detail.

Or

(b) What is Multiplexer?

13. (a) What are the different types of data transfer instructions available?

Or

(b) Give a brief note on stack organization.

14. (a) What is Daisy – Chaining Priority?

Or

(b) Write short notes on Intel 8089 IOP.

15. (a) Give a brief note on Memory Hierarchy.

Or

(b) What are address space and memory space in virtual memory?

PART C — (5 × 8 = 40 marks)

Answer ALL questions, choosing either (a) or (b).

Each answer should not exceed 600 words.

16. (a) What are the different types of number systems available? Explain each one of them.

Or

(b) What is the use of Don't care condition? Simplify the following Boolean function using *k*-map.

$F(A,B,C) = \sum(0,2,6)$

$d(A,B,C) = \sum(1,3,5)$

17. (a) Give a brief note on Ripple counter.

Or

(b) What are Half and Full Adders? Explain each one of them.

18. (a) What is the use of Arithmetic circuit? Explain arithmetic microoperations in detail.

Or

(b) What are the different types of addressing modes available? Explain each one of them.

19. (a) What is Asynchronous Data Transfer? Explain strobe control and Handshaking in detail.

Or

(b) What is DMA? Explain DMA controller and DMA transfer in detail.

20. (a) Give a brief note on main memory.

Or

(b) What is the use of cache memory? Explain it in detail.

———————

(6 pages)

Reg. No. : .....

Code No. : 9455 **Sub. Code : KCAM 31/ PCAM 31**

M.C.A. (CBCS) DEGREE EXAMINATION, NOVEMBER 2018.

Third Semester

Computer Application

FINANCIAL MANAGEMENT AND ACCOUNTING

(For those who joined in July 2016 and afterwards)

Time : Three hours Maximum : 75 marks

PART A — (10 × 1 = 10 marks)

Answer ALL questions.

Choose the correct answer:

1. Each business transaction has————————.

   (a) Two aspects (b) Three aspects

   (c) One aspect (d) Four aspects

2. Real Account is also known as————————.

   (a) Cash account (b) Asset account

   (c) Property account (d) Bank account

3. Financial Management is mainly concerned with _____.

   (a) Arrangement of funds

   (b) All aspect of acquiring and utilizing financial resources

   (c) Efficient management of business

   (d) Utilization of fund

4. He is a person who is responsible in a significant way to carry out the finance function.

   (a) Treasurer (b) Financial Manager

   (c) Controller (d) Financial Assistant

5. Financial statements generally refers to _____ basic statements.

   (a) Four (b) Three

   (c) Two (d) Five

6. Persons interested in the profits earned by the company

   (a) Debenture holders (b) Creditors

   (c) Shareholders (d) Tax authorizes

7. A business firm is a _____ seeking organisation,

   (a) Service (b) Profit

   (c) Motivation (d) Decision

8. _____ is a measure of efficiency and control.

(a) Profitability (b) Flexibility

(c) Managerial Decision (d) Controlling

9. EDP stands for————————.

(a) Electronic Digital Processing

(b) Electronic Digital Procedure

(c) Electronic Data Processing

(d) Entertainment Data Procedure

10. MIS stands for

(a) Management Impact System

(b) Management Information System

(c) Managerial Information System

(d) Managerial Incentive Service

PART B — (5 × 5 = 25 marks)

Answer ALL questions, choosing either (a) or (b).
Each answer should not exceed 250 words.

11. (a) State the attributes of Accounting.

Or

(b) What is Ledger? How Ledger is sub — divided?

12. (a) Differentiate Profit and Wealth Maxisation.

Or

(b) Explain the main functions of Financial Management.

13. (a) What are the main objectives of Financial analysis?

Or

(b) Difference between Cash flow statement and Fund flow statement.

14. (a) State the uses of Fund flow Statement.

Or

(b) How can ratios be Interpreted?

15. (a) Explain briefly Mechanized Accounting.

Or

(b) Explain the advantages of computer.

PART C — (5 × 8 = 40 marks)

Answer ALL questions, choosing either (a) or (b)

Each answer should not exceed 600 words.

16. (a) From the following particulars from the books of Gaiter Traders. Prepare Final account for the year ended 31st March 2012.

Particulars	Rs.	Particulars	Rs.
Capital	2,00,000	Land	54,000
Cash at Bank	8,000	Sales	5,00,000
Cash in hand	2,000	Carriage Inwards	3,200

Particulars	Rs.	Particulars	Rs.
Buildings	1,20,000	Gas	8,800
Wages	60,000	Sundry creditors	48,800
Salaries	40,000	Sundry Debtors	60,000
Rent &Rates	7,200	Purchase return	8,000
Printing	4,800	Sales Return	6,000
Stock on 1-4- 2011	32,000	B/R	16,000
Purchases	2,80,000	Discount Received	1,600
Insurance	3,200	Discount allowed	2,000
Machinery	48,000	Furniture	12,000
Drawings	24,000	Travelling exps.	7,200
		Loans	40,000

Provide the following Adjustments:

(i) Prepaid Insurance Rs.800
(ii) Depreciation:
  (1) Machinery at 10 %,
  (2) Furniture at 5 %
(iii) Interest on capital at 3 %
(iv) Outstanding Wages 3,200
(v) Outstanding salaries 2400
(vi) Write off Bad debts 4,000 and create Reserve for had debts at 5 % on debtors.

Or

(b) Explain in detail guidelines for preparation of Final accounts.

17. (a) Explain the organisation of finance Function.

Or

(b) Explain the role of a financial manager in the changing scenario.

18. (a) How to prepare Fund flow statement?

Or

(b) Explain the meaning of Cash flow analysis and describe its format.

19. (a) Explain the method of presentation of financial statement.

Or

(b) Explain the different types of Financial analysis.

20. (a) How information technology is used in accounting?

Or

(b) Explain MIS and its advantages.

———————

(6 pages) **Reg. No. :** .....

Code No. : 9448 **Sub. Code : KCAM 14/ PCAM14**

M.C.A. (CBCS) DEGREE EXAMINATION, NOVEMBER 2018

First Semester

Computer Applications

FUNDAMENTALS OF INFORMATION TECHNOLOGY

(For those who joined in July 2016 and afterwards)

Time : Three hours Maximum : 75 marks

PART A — (10 × 1 = 10 marks)

Answer ALL questions.

Choose the correct answer :

1. Diagramatic representation of algorithm is called _____

   (a) Chart

   (b) Pie chart

   (c) Bar chart

   (d) Flow chart

2. Which component is used in first generation computer? _____

   (a) Vaccum tube (b) Capacitor

   (c) Resister (d) None

3. ROM stands for _____

   (a) Random Only Memory

   (b) Read Only Memory

   (c) Read Oriented Memory

   (d) None

4. Which one of the following is secondary memory? _____

   (a) ROM (b) RAM

   (c) Hard disk (d) None

5. _____ is a method that allows an I/O device to send or receive data directly to or from the main memory by passing the CPU to speed up memory operations.

   (a) Device Memory access

   (b) Direct memory access

   (c) Both (a) and (b)

   (d) None

6. What are the steps involved in Instruction cycle?

   (a) Fetching

   (b) Decoding

   (c) Executing and storing

   (d) All the above

7. _____ is used by user to perform specific task.

   (a) System software

   (b) Application software

   (c) Both (a) and (b)

   (d) None

8. A _____ acts as a translator between the hardware and the software that uses the devices.

   (a) Loader (b) Linker

   (c) Device Driver (d) None

9. _____ is processed, manipulated and interpreted data.

   (a) Data (b) Information

   (c) Knowledge (d) None

10. Say True or False :

A system is a set of components that work together to achieve a common goal.

(a) True (b) False

PART B — (5 × 5 = 25 marks)

Answer ALL questions, choosing either (a) or (b).

Each answer should not exceed 250 words.

11. (a) Give a brief note on Simple model of a computer.

Or

(b) What is parallel computer?

12. (a) How do you execute assembly language program?

Or

(b) What is serial access memory?

13. (a) What are smart cards?

Or

(b) Give a brief note on cache memory.

14. (a) What is the difference between compiler and Interpreter?

Or

(b) What is object oriented programming?

15. (a) What is utility computing?

Or

(b) What are the components of Information system?

PART C — (5 × 8 = 40 marks)

Answer ALL questions, choosing either (a) or (b).

Each answer should not exceed 600 words.

16. (a) What are the different types of output devices available? Explain each one of them.

Or

(b) What is Moore's Law? Explain it in detail.

17. (a) Expand and explain CDROM.

Or

(b) How do you compile a High Level Language program? What are the tools used to build compilers?

18. (a) What will be the minimum configuration of a Micro computer?

Or

(b) Write short notes on the following :

(i) Instruction Format

(ii) Instruction set

(iii) Instruction cycle.

19. (a) What are the different types of softwares available? Explain application software in detail.

Or

(b) What is Pseudocode? How do you prepare a pseudocode?

20. (a) What is operation support system? Explain it in detail.

Or

(b) Give a brief note on Peer to Peer and Grid computing.

———————

(8 pages) **Reg. No. :** .....

Code No. : 9445 **Sub. Code : KCAM 11/ PCAM 11**

M.C.A. (CBCS) DEGREE EXAMINATION, NOVEMBER 2018

First Semester

Computer Application

MFCS – I

(For those who joined in July 2016 and afterwards)

Time : Three hours Maximum : 75 marks

PART A — (10 × 1 = 10 marks)

Answer ALL questions.

Choose the correct answer :

1. A _____ is a proposition that neither a tantology nor a contradiction contingency

   (a) Equivalances

   (b) Consequences

   (c) Contingency

   (d) Contradiction

2. A ———————— is a proposition that is always true.

(a) Tantology (b) Contingency

(c) Assumption (d) Equivalances

3. Two sets are called disjoint if there _____ is the empty set.

(a) Union (b) Difference

(c) Intersection (d) Complement

4. A _____ is an ordered collection of object.

(a) Set (b) Relation

(c) Function (d) Proposition

5. A function that is one to one and onto is often called

(a) Isomorphism (b) Bijection

(c) Direct (d) Indirect

6. What is the Cartesian product of $A = \{1, 2\}$ and $B = \{a, b\}$?

(a) $\{(1, a)(1, b), (2, a)(b, b)\}$

(b) $\{(1, 1), (2, 2), (a, a), (b, b)\}$

(c) $\{(1, a)(2, a)(1, b)(2, b)\}$

(d) $\{(1, 1)(a, a)(2, a)(1, b)\}$

7. Transpose of a rectangular matrix is

   (a) Rectangular

   (b) Diagonal matrix

   (c) Square

   (d) Scales

8. If A is symmetric matrix, then A^{+}

   (a) A (b) $|A|$

   (c) O (d) Diagonal matrix

9. The total distance traversed by an object is called

   (a) Motion

   (b) Path length

   (c) Path

   (d) Velocity

10. The accelaration of a body moving with constant velocity

    (a) Zero (b) One

    (c) Two (d) Three

PART B — ($5 \times 5 = 25$ marks)

Answer ALL questions, choosing either (a) or (b).

Each answer should not exceed 250 words.

11. (a) Define negation with suitable example.

Or

(b) What is the value of the variable x after the statement if $2+2=4$ then $x := x+1$.

12. (a) State and prove for every set S,

(i) $\phi \underline{C} S$ and (3)

(ii) $S \underline{C} S$ (2)

Or

(b) What is the power set of the empty set?

13. (a) Prove the following :

Let $G(.)$ be a group. Then for any $x, y \in G$ it holds that $(xy)^{-1} = y^{-1}x^{-1}$. (5)

Or

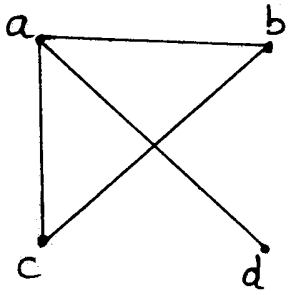
(b) Give the properties of groups. (5)

14. (a) Find the eigen values of the matrix $\begin{bmatrix} 5 & 4 \\ 4 & -1 \end{bmatrix}$

Or

(b) Define equivalence relation with examples.

15. (a) Use an adjacency matrix to represent the graph shown in the below figure :



Or

(b) There is a simple path between every pair of distinct vertices of a connected undirected graph – prove it.

PART C — (5 × 8 = 40 marks)

Answer ALL questions, choosing either (a) or (b).

Each answer should not exceed 600 words.

16. (a) Without constructing truth table verify whether $Q \vee (P \wedge -Q) \vee (-P \wedge -Q)$ is a contradiction or tautology. (8)

Or

(b) Construct a truth table for the following compound propositions.

(i) $(p \oplus q) \wedge (p \oplus \neg q)$ (4)

(ii) $(\neg p \leftrightarrow \neg q) \leftrightarrow (p \leftrightarrow q)$. (4)

17. (a) Write the properties of subsets and explain with suitable example. (8)

Or

(b) Let A, B, C be sets, prove that $A - (B \cup C) = (A - B) \cap (A - C)$ (8)

18. (a) (i) If $G = \langle a, b | a^4 = 1, b^3 = 1, ab = ba \rangle$ and H is the cyclic subgroup generated by b, find the left and right cosets of H in G. (4)

(ii) Find the order of H given the following clues.

(1) H is a subgroup as a group of order 68. (4)

(2) H is non–cyclic.

Or

(b) Prove

(i) For $g \in G$, $gH = H$ if and only if $g \in H$. (4)

(ii) Let H be a subgroup of the group G. Any left H – coset in G has a bijection with H. In particular, when H is finite, the coset S of H all have the same size as H. (4)

19. (a) Verify Cayley – Hamilton theorem and hence find A^{-1} if $A = \begin{bmatrix} 1 & 2 & -2 \\ 1 & 3 & 0 \\ 0 & -2 & 1 \end{bmatrix}$

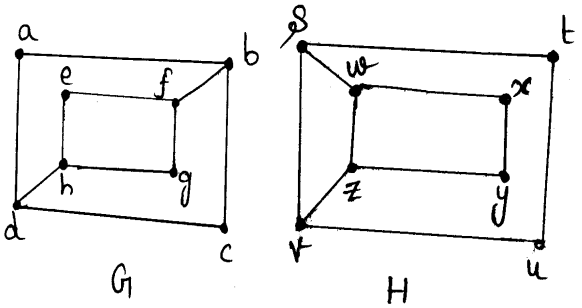
Or

(b) Examine if the following system of equations are consistent and find the solution if it exists.

$x + y + z = 1;\ 2x - 2y + 3z = 1,$

$x - y + 2z = 5;\ 3x + y + z = 2.$ (8)

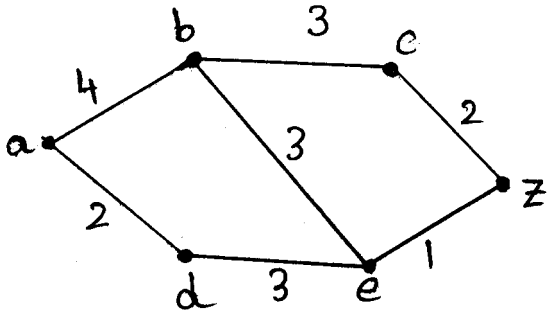
20. (a) Determine whether the graphs shown below are isomorphism.



The Graphs G and H (8)

Or

(b) What is the length of a shortest path between a and z in the weighted graph shown in below figure?



(6 pages)

Reg. No. : .....

Code No. : 9480 **Sub. Code : PCAM 35**

M.C.A. (CBCS) DEGREE EXAMINATION,
NOVEMBER 2018.

Third Semester

Computer Application

MICROPROCESSOR AND ITS APPLICATIONS

(For those who joined in July 2017 onwards)

Time : Three hours Maximum : 75 marks

PART A — (10 × 1 = 10 marks)

Answer ALL questions.

Choose the correct answer :

1. The microprocessor communicates and operates in the binary numbers 0 and 1 called _____.

   (a) Bits

   (b) Byte

   (c) GB

   (d) TB

2. The memory

   (a) Stores binary information called instruction and data

   (b) Provide the instruction and data to the microprocessor on request

   (c) Store results and data for the microprocessor

   (d) All of the above

3. The 8085 microprocessor signals can be classified into————————groups.

   (a) Two (b) Three

   (c) Five (d) Six

4. The 8085 has two————————register.

   (a) 16 bit (b) 8 bit

   (c) 32 bit (d) 64 bit

5. Choose the arithmetic instruction from the following:

   (a) ADD R (b) MUI R

   (c) ANA R (d) XRA R

6. Logic operation rotates has now many instructions?

   (a) Four (b) Two

   (c) Three (d) Six

7. Counters and time delays can be designed using

(a) Hardware (b) Software

(c) Microprocessor (d) All the above

8. A————————is a group of instructions that performs a subtask of repeated occurrence.

(a) Subroutine (b) Stack

(c) Queue (d) None of these

9. ———————— translates Assembly language into machine language.

(a) Compiler (b) Interpreter

(c) Editor (d) None of these

10. Pentium is a ————————.

(a) Software (b) Application

(c) Language (d) Micro processor

PART B — (5 × 5 = 25 marks)

Answer ALL questions, choosing either (a) or (b).

Each answer should not exceed 250 words.

11. (a) Write about 8085 based assembly language program format. Give an example.

Or

(b) Write short notes on

(i) One – byte instruction

(ii) Two – byte instruction

(iii) Three – byte instruction

12. (a) Discuss about

(i) ROM

(ii) Flash memory

(iii) EPROM.

Or

(b) Write about memory interfacing 8155.

13. (a) Write any five logic operations in 8085. Give any one example program.

Or

(b) Write about any five 16 bit arithmetic instructions.

14. (a) Write short notes on Time Delay using register.

Or

(b) Write about BCD to SEVEN segment code conversions.

15. (a) What is cross compiler? Discuss it.

Or

(b) Discuss any five arithmetic instructions in 80386.

PART C — (5 × 8 = 40 marks)

Answer ALL questions, choosing either (a) or (b), each answer should not exceed 600 words.

16. (a) Write 8085 based assembly language program for ascending order of given numbers.

Or

(b) Explain about computer languages classification with it's types.

17. (a) Enumerate about 8085 microprocessor architecture.

Or

(b) Explain about Input and Output (I/O) instructions with example program.

18. (a) Write any five data transfer instructions give example program.

Or

(b) Explain about counting and indexing in 8085.

19. (a) Enumerate about hexadecimal counter.

Or

(b) Explain about BCD addition, subtraction using microprocessor application.

20. (a) Explain about micro controllers.

Or

(b) Enumerate about Register organisation of 80286, 80386 microprocessor

———————

(6 pages) **Reg. No. :** .....

Code No. : 9459 **Sub. Code : KCAM 35/ PCAM 34**

M.C.A. (CBCS) DEGREE EXAMINATION, NOVEMBER 2018.

Third Semester

Computer Application

OBJECT ORIENTED ANALYSIS AND DESIGN USING UML

(For those who joined in July 2016 and afterwards)

Time : Three hours Maximum : 75 marks

PART A — (10 × 1 = 10 marks)

Answer ALL questions.

Choose the correct answer :

1. ———————— inheritance allows objects to change and evolve over time.
   (a) Dynamic
   (b) Static
   (c) Multiple
   (d) Multilevel

2. ———————— is the task of predicting correspondence.

(a) Correspondence (b) Validation

(c) Correctness (d) Verification

3. The ———————— model constitutes the test plans, specifications and reports.

(a) Case (b) Domain object

(c) Analysis object (d) Test

4. The ———————— method produces detailed object-oriented design models.

(a) Rumbaugh (b) Jacobson

(c) Booch (d) Peter coad

5. ———————— class also known as person, roles and roles played class.

(a) Concept (b) Events

(c) People (d) Places

6. ———————— represents a physical or conceptual connection between two or more objects.

(a) Relationships (b) Attributes

(c) Generalization (d) Associations

7. The ———————— axiom maintains the independence of components.

(a) Independence

(b) Information

(c) Basic

(d) Control

8. ———————— is a specification language that uses simple logic for specifying the properties of a system.

(a) TCL (b) DCL

(c) UCL (d) OCL

9. ———————— errors occur when code does not perform the way you intended.

(a) Run-time (b) Logic

(c) System (d) Syntax

10. Scenario-based testing also called ———————— based testing.

(a) Usage (b) Statement

(c) Branch (d) System

PART B — (5 × 5 = 25 marks)

Answer ALL questions, choosing either (a) or (b).

Each answer should not exceed 250 words.

11. (a) What is the difference between an object's methods and an object's attributes?

Or

(b) Explain about prototyping.

12. (a) Discuss about the Jacobson method logics.

Or

(b) Write a note on UML extensibility.

13. (a) List down the steps to process object-oriented Analysis.

Or

(b) Write a note on A-Part-of Relationships.

14. (a) Write about object-oriented Design axioms.

Or

(b) Explain about the macro-level process.

15. (a) List down the guidelines for developing quality Assurance Test Cases.

Or

(b) Discuss about the impact of object orientation on testing.

PART C — (5 × 8 = 40 marks)

Answer ALL questions, choosing either (a) or (b).

Each answer should not exceed 600 words.

16. (a) Explain about Object Relationships and Associations.

Or

(b) Discuss about Object-oriented Analysis.

17. (a) Briefly explain about Patterns.

Or

(b) Explain in detail about UML class diagram.

18. (a) Give an overview about use-case model.

Or

(b) Discuss about common class patterns Approach.

19. (a) Describe about corollaries.

Or

(b) Explain about Database models.

20. (a) Describe the different testing strategies.

Or

(b) Discuss about Quality Assurance tests.

———————

(6 pages) **Reg. No. :** .....

Code No. : 9446 **Sub. Code : KCAM 12/ PCAM 12**

M.C.A. (CBCS) DEGREE EXAMINATION, NOVEMBER 2018.

First Semester

Computer Applications

PROGRAMMING IN C

(For those who joined in July 2016 and afterwards)

Time : Three hours Maximum : 75 marks

PART A — (10 × 1 = 10 marks)

Answer ALL questions.

Choose the correct answer:

1. The techniques of ———————— evaluations are all variations on the basic dynamic programming idea.

   (a) Greedy search (b) Back tracking

   (c) Branch and Bound (d) All the above

2. A technique for algorithm design that tries to accommodate this human limitations is known as ———————.

   (a) top down design

   (b) step wise refinement

   (c) both (a) and (b)

   (d) none

3. Conversion of high level language to low level language is called ———————.

   (a) Compiler (b) Interpreter

   (c) both (a) and (b) (d) none

4. A ——————— combines one or more object files and possible some library code into either some executable, some library or a list of error messages.

   (a) Complier (b) Interpreter

   (c) Loader (d) Linker

5. Formatted output statement is ———————.

   (a) Putchar ( ) (b) Puts ( )

   (c) Printf ( ) (d) None

6. It is an identifier, during program execution the value of the ———————— will not change.

(a) variable (b) constant

(c) both (a) and (b) (d) none

7. A function, calls itself is known as ————————.

(a) procedure (b) structure

(c) union (d) recursion

8. ———————— is a collection of similar data item that are stored under common name.

(a) Structure (b) Union

(c) Array (d) None

9. In ————————, each member has its own memory location.

(a) Structure (b) Union

(c) both (a) and (b) (d) none

10. Say True of False

Only one Union member can be accessed at a time.

(a) True (b) False

PART B — (5 × 5 = 25 marks)

Answer ALL questions, choosing either (a) or (b).

Each answer should not exceed 250 words.

11. (a) What is program verification?

Or

(b) What is redundant computation?

12. (a) Define the terms : Compiler, Interpreter, Loader and Linker.

Or

(b) Write an algorithm and flowchart for addition of two numbers.

13. (a) What is the difference between break ( ) and continue ( ) statements?

Or

(b) With an example and syntax explain for statement.

14. (a) What is Recursion? Explain with an example program.

Or

(b) What is an array? Give a brief note on one dimensional array.

15. (a) What is the different between structure and union?

Or

(b) What is the use of enumeration datatypes?

PART C — (5 × 8 = 40 marks)

Answer ALL questions, choosing either (a) or (b).

Each answer should not exceed 600 words.

16. (a) What is Top down design? Give a brief note on it?

Or

(b) How do you implement algorithms? Explain it in detail.

17. (a) Write short note on classification of programming language.

Or

(b) What is pseudo code representation? Explain with an example.

18. (a) What are the different types of formatted Input and Output statements available in 'C' language?

Or

(b) What are the different types of 'if' statements available in 'C' language?

19. (a) What is pointer? Explain pointer to function and pointer operations in detail.

Or

(b) Write a 'C' program to find the sum of 'n' numbers using array.

20. (a) What is the use of command line argument? Explain with an example program.

Or

(b) What is Random Access File? What are the basic file operations used? Give a brief note on it.

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(6 pages) **Reg. No. :** .....

Code No. : 9446 **Sub. Code : KCAM 12/ PCAM 12**

M.C.A. (CBCS) DEGREE EXAMINATION, NOVEMBER 2018.

First Semester

Computer Applications

PROGRAMMING IN C

(For those who joined in July 2016 and afterwards)

Time : Three hours Maximum : 75 marks

PART A — (10 × 1 = 10 marks)

Answer ALL questions.

Choose the correct answer:

1. The techniques of ———————— evaluations are all variations on the basic dynamic programming idea.

   (a) Greedy search (b) Back tracking

   (c) Branch and Bound (d) All the above

2. A technique for algorithm design that tries to accommodate this human limitations is known as ———————.

   (a) top down design

   (b) step wise refinement

   (c) both (a) and (b)

   (d) none

3. Conversion of high level language to low level language is called ———————.

   (a) Compiler (b) Interpreter

   (c) both (a) and (b) (d) none

4. A ——————— combines one or more object files and possible some library code into either some executable, some library or a list of error messages.

   (a) Complier (b) Interpreter

   (c) Loader (d) Linker

5. Formatted output statement is ———————.

   (a) Putchar ( ) (b) Puts ( )

   (c) Printf ( ) (d) None

6. It is an identifier, during program execution the value of the ———————— will not change.

(a) variable (b) constant

(c) both (a) and (b) (d) none

7. A function, calls itself is known as ————————.

(a) procedure (b) structure

(c) union (d) recursion

8. ———————— is a collection of similar data item that are stored under common name.

(a) Structure (b) Union

(c) Array (d) None

9. In ————————, each member has its own memory location.

(a) Structure (b) Union

(c) both (a) and (b) (d) none

10. Say True of False

Only one Union member can be accessed at a time.

(a) True (b) False

PART B — (5 × 5 = 25 marks)

Answer ALL questions, choosing either (a) or (b).

Each answer should not exceed 250 words.

11. (a) What is program verification?

Or

(b) What is redundant computation?

12. (a) Define the terms : Compiler, Interpreter, Loader and Linker.

Or

(b) Write an algorithm and flowchart for addition of two numbers.

13. (a) What is the difference between break ( ) and continue ( ) statements?

Or

(b) With an example and syntax explain for statement.

14. (a) What is Recursion? Explain with an example program.

Or

(b) What is an array? Give a brief note on one dimensional array.

15. (a) What is the different between structure and union?

Or

(b) What is the use of enumeration datatypes?

PART C — (5 × 8 = 40 marks)

Answer ALL questions, choosing either (a) or (b).

Each answer should not exceed 600 words.

16. (a) What is Top down design? Give a brief note on it?

Or

(b) How do you implement algorithms? Explain it in detail.

17. (a) Write short note on classification of programming language.

Or

(b) What is pseudo code representation? Explain with an example.

18. (a) What are the different types of formatted Input and Output statements available in 'C' language?

Or

(b) What are the different types of 'if' statements available in 'C' language?

19. (a) What is pointer? Explain pointer to function and pointer operations in detail.

Or

(b) Write a 'C' program to find the sum of 'n' numbers using array.

20. (a) What is the use of command line argument? Explain with an example program.

Or

(b) What is Random Access File? What are the basic file operations used? Give a brief note on it.

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