

3. The items are stored in a memory locations by means of pointer is called _____
- (a) Tree (b) Stack
(c) Linked list (d) Graph
4. A node in a doubly linked list was at least _____ fields.
- (a) 3 (b) 2
(c) 4 (d) 5
5. The numbers of sub trees of a node is called its _____
- (a) Degree (b) Forest
(c) Level (d) Terminal
6. A _____ refers to a single unit of values.
- (a) data value (b) attribute value
(c) data item (d) elementary
7. A _____ is an ordered list in which all insertions and deletions are made at one end called top.
- (a) Queue (b) Trees
(c) Graphs (d) Stack

8. Children of the same parent are said to be ———
- (a) Siblings (b) Level
(c) Non terminal (d) Structure
9. The number of nodes in a full binary tree of depth four is —————
- (a) 15 (b) 16
(c) 14 (d) 12
10. A ————— is a collection of records, each record having one or more fields.
- (a) File (b) Tree
(c) Data item (d) Structure

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 an algorithm? What are the characteristics of a good algorithm?

Or

- (b) Distinguish between the atomic and composite data.

12. (a) What are the basic operations of linear list? Explain.

Or

- (b) Suppose LIST is in memory. Write an algorithm which deletes the last node from LIST.

13. (a) Elaborate the basic operations on stack.

Or

- (b) Describe the conceptual and physical stack implementations.

14. (a) Write down the various representations of binary tree.

Or

- (b) What is an expression tree? Give an example.

15. (a) Explain the classifications of sorting with neat diagram.

Or

- (b) Describe the breadth – first traversal of a graph.

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 model for an abstract data type.

Or

- (b) Write the Pseudo code for an algorithm that receives an integer and then prints the number of digits in the integer and the sum of the digits.

17. (a) What is an algorithm to insert item as the first node in the linked list and explain it.

Or

- (b) Illustrate the conceptual view of a list and its implementation as a linked list.

18. (a) Write a procedure to add and delete an element to stack.

Or

- (b) What is a queue? Explain the various operations performed on a queue.

19. (a) Write an algorithm to delete a particular node from binary search tree.

Or

- (b) Explain the algorithm for preorder traversal of a binary tree.

20. (a) Discuss the balanced two-way merge sort with example.

Or

- (b) Illustrate the different ways to represent a graph.

B.A. (CBCS) DEGREE EXAMINATION, APRIL 2022

Fourth Semester

Computer Application — Allied

ACCOUNTING SOFTWARE TALLY

(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 :

_____ number of predefined groups are available in tally.

- (a) 26 (b) 27
(c) 28 (d) 29

_____ is also called store house.

- (a) Stock item (b) Godown
(c) Stockist (d) All

A dealer of excisable goods is one who is registered under central _____ rules.

- (a) Goods (b) Excise
(c) Purchase (d) Dealer

Excise _____ register is a commodity wise report displaying the details of purchases and sales of excisable goods in a given period.

- (a) sales (b) stock
(c) issue (d) purchase

_____ refers to a document issued to an employee, which itemizes each component of his/her earnings and deductions and the net amount paid for a given pay period.

- (a) Payreport (b) Acquittance
(c) Payslip (d) Gross slip

ESI refers to employee _____ insurance.

- (a) Stable (b) State
(c) Salary (d) Slip

3. _____ provides complete details of all the purchases made in a particular tax period.

- (a) Tally purchase register
(b) Purchase register
(c) VAT purchase register
(d) Purchase register for tax

4. Enabling VAT details is under _____

- (a) Taxation
(b) Statuary and taxation
(c) Purchase
(d) Company creation

5. TCS stands for tax collected at _____

- (a) Stores (b) Shipment
(c) Source (d) Sales

6. Form number _____ Annual return of collection of tax under section 206C of Income Tax Act, 1961.

- (a) 27C (b) 27D
(c) 27E (d) 27H

Page 2 Code No. : 30525 E

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 Group Creation in tally.

Or

(b) Explain Master Configuration.

12. (a) Discuss about VAT classification.

Or

(b) Explain VAT rates.

13. (a) List the features of TDS.

Or

(b) Explain service tax reports.

14. (a) What is Excise duty? Explain.

Or

(b) How will you enable excise in tally?

15. (a) Explain enabling payroll in tally.

Or

(b) Discuss about salient features of payroll in tally.

PART C — (5 × 8 = 40 marks)

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

Each answer should not exceed 600 words.

16. (a) Write the various steps in the creation of Ledger.

Or

(b) Explain creating a new company in tally.

17. (a) Explain VAT composition report.

Or

(b) Discuss about the features of VAT in tally.

18. (a) Discuss about TDS deduction for advance payment.

Or

(b) Discuss about the TDS computation.

Page 5 Code No. : 30525 E

19. (a) Explain in detail about the excise stock register.

Or

(b) Discuss about purchase of excisable goods.

20. (a) Explain the employee setup.

Or

(b) Discuss about paysheet report.

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(6 Pages)

Reg. No. :

Code No. : 20450 E Sub. Code : AMCA 31

B.C.A. (CBCS) DEGREE EXAMINATION,
NOVEMBER 2021.

Third Semester

Computer Application — Core

JAVA PROGRAMMING

(For those who joined in July 2020 onwards)

Time : Three hours

Maximum : 75 marks

PART A — (10 × 1 = 10 marks)

Answer ALL questions.

Choose the correct answers :

1. What is the range of short data type in Java?
 - (a) -128 to 127
 - (b) -32768 to 32767
 - (c) -2147483648 to 2147483647
 - (d) None of the mentioned

2. Modulus operator, %, can be applied to which of these?
 - (a) Integers
 - (b) Floating – point numbers
 - (c) Both integers and floating – point numbers
 - (d) None of the mentioned

3. Which of the following is a valid declaration of an object of class Box?
 - (a) `Box obj = new Box();`
 - (b) `Box obj = new Box;`
 - (c) `obj = new Box();`
 - (d) `new Box obj;`

4. Using which of the following, multiple inheritance in Java can be implemented?
 - (a) Interfaces
 - (b) Multithreading
 - (c) Protected methods
 - (d) Private methods

5. Which of the following is an incorrect statement about packages?
- (a) Package defines a namespace in which classes are stored
 - (b) A package can contain other package within it
 - (c) Java uses file system directories to store packages
 - (d) A package can be renamed without renaming the directory in which the classes are stored
6. What is multithreaded programming?
- (a) It's a process in which two different processes run simultaneously
 - (b) It's a process in which two or more parts of same process run simultaneously
 - (c) It's a process in which many different process are able to access same information
 - (d) It's a process in which a single process can access information from any sources
7. Which of these package contains classes and interfaces for networking?
- (a) java.io
 - (b) java.util
 - (c) java.net
 - (d) java.network

8. Which of these packages contains all the event handling interfaces?
- (a) java.lang (b) java.awt
(c) java.awt.event (d) java.event
9. By which method you can set or change the text in a label?
- (a) setText() (b) getText()
(c) Both (a) and (b) (d) None of the above
10. Which is a component in AWT that can contain another components like buttons textfields, labels etc.?
- (a) window (b) container
(c) panel (d) frame

PART B — (5 × 5 = 25 marks)

Answer ALL questions, choosing either (a) or (b) not exceeding 250 words.

11. (a) Write short notes on literals.

Or

- (b) Explain bitwise operators with an example.

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[P.T.O]

12. (a) Describe recursion with an example.

Or

(b) Write short notes on method overloading.

13. (a) Discuss: package.

Or

(b) Define synchronization in thread.

14. (a) Write short notes on Inet address.

Or

(b) Describe delegation event model.

15. (a) Discuss graphics used in AWT.

Or

(b) Explain labels and check boxes used in AWT.

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 data types used in java.

Or

(b) Discuss arrays in detail.

17. (a) Define constructor overloading with an example.

Or

(b) Give detail note on inheritance.

18. (a) Discuss exception handling in detail.

Or

(b) Define multithreading with an example.

19. (a) Write briefly about URL.

Or

(b) Give detail description about event listener interfaces.

20. (a) Explain briefly about frame windows.

Or

(b) Discuss menus used in AWT.

Reg. No. :

**Code No. : 20252 E Sub. Code : JMCA 32/
SMCA 32/AMCA 32**

B.C.A. (CBCS) DEGREE EXAMINATION,
NOVEMBER 2021

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 answers :

1. Owners equity refers to
 - (a) Total equity – creditors equity
 - (b) Total equity + creditors equity
 - (c) Total equity × creditors equity
 - (d) Total equity

2. 'Policy of planning safe' refers
 - (a) Convention of disclosure
 - (b) Convention of materiality
 - (c) Convention of consistency
 - (d) Convention of conservation

3. Journal is a book of
 - (a) Prime entry (b) Secondary entry
 - (c) Closing entry (d) Correcting entry

4. Purchase return book is prepared on the basis of _____
 - (a) Debit note (b) Credit note
 - (c) Invoice note (d) Requisition note

5. The arithmetical accuracy of posting is the main principles of
 - (a) Journal book (b) Transaction
 - (c) Ledger book (d) Trial balance

6. Provision for bad debts appearing in trial balance will figure in
 - (a) The balance sheet
 - (b) The profit and loss a/c
 - (c) Trading a/c
 - (d) Both (a) and (b)

7. Patent and copy rights are the example of
- (a) Current assets
 - (b) Liquid assets
 - (c) Tangible assets
 - (d) Contingent assets
8. Which of the following is the aim of manufacturing account
- (a) To ascertain factory cost of production
 - (b) To disclose operating profit
 - (c) Cost control and ascertainment of cost
 - (d) To find out total cost
9. Receipts and payment account is prepared on the basis of
- (a) Cash book
 - (b) Income and expenditure a/c
 - (c) Profit and loss a/c
 - (d) Sales book
10. Donation received for a specific purpose is
- (a) Capital receipt (b) Revenue receipt
 - (c) Liability (d) Asset

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 accounting convention?
Explain its various types.

Or

- (b) Distinguish between single entry system and double entry system.

12. (a) Journalise the following transaction.

- (i) Paid salary to Kumar Rs. 5,000.
- (ii) Received interest Rs. 2,000.
- (iii) Paid to Kannan Rs. 1,500.
- (iv) Purchased a machinery for cash Rs. 10,000.
- (v) Sold a building to Arun Rs. 5,00,000.

Or

- (b) What do you mean by ledger? List out its advantages.

13. (a) What are the errors which are not disclosed by Trial balance?

Or

- (b) Write a short note on 'suspense account'.

14. (a) Distinguish between trading and profit and loss account.

Or

- (b) Give the various classification of assets and liabilities.

15. (a) Distinguish between capital receipts and revenue receipt.

Or

- (b) How will you treated as donation in income and expenditure account?

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 different accounting concept.

Or

- (b) What do you mean by double entry system of book keeping? What are its merits and demerits?

17. (a) Enter the following transactions in prepare subsidiary book.

- 2019 3. Sold goods an credit to Prasad Rs. 5,500
December 6. Sold goods to Chandran Rs. 6,600
 10. Goods returned by Chandran Rs. 440
 16. Sold goods to Prasad for Rs. 7,700
 20. Sales returns from Prasad 220
 28. Sales returned from Chandran Rs. 330

Or

(b) Enter the following transactions in a three column cash book.

- 2019 1. Cash in hand Rs. 410
Jan. Balance at bank Rs. 8,920
 2. Cash sales Rs. 4,500
 3. Paid into bank Rs. 4,000
 5. Purchased stationary Rs. 100
 8. Paid Mahesh by cheque Rs. 250
 Discount received Rs. 20
 12. Gave a cheque for cash
 purchases Rs. 1,500
 15. Drew for personal use Rs. 500
 20. Drew from bank Rs. 1,000
 21. Paid ways Rs. 800

18. (a) Define the term trial balance. What are its features?

Or

- (b) Prepare trial balance from the following capital Rs. 9,000; plant and machinery Rs. 12,000; purchases Rs. 8,000; rent outstanding Rs. 1,000; opening stock Rs. 2,000; sales return Rs. 4,000; sales Rs. 12,000; investments Rs. 14,000; sundry creditors Rs. 8,000; debtors Rs. 12,000; bank loan Rs. 22,000.

19. (a) What is manufacturing account? What are its advantages?

Or

- (b) The following trial balance of Arun as at 31.12.2019 is given you. Prepare a final account.

	Rs.		Rs.
Opening stock	15,500	Capital	90,000
Land and building	35,000	Creditors	9,600
Machinery	50,000	Purchase return	2,100
Furniture	5,000	Sundry income	1,200
Purchases	1,06,000	Reserve for bad debts	300

	Rs.		Rs.
Salaries	11,000	Sales	2,07,000
General expenses	2,500		
Rent	3,000		
Postage	1,400		
Wages	26,000		
Freight on purchase	2,800		
Carriage on sales	4,000		
Repairs	4,500		
Debtors	30,000		
Bad debts	600		
Cash	100		
Bank	6,400		
Sales return	6,400		
	<u>3,10,200</u>		<u>3,10,200</u>

Adjustments :

- (i) Closing stock Rs. 14,900.
- (ii) Wages outstanding Rs. 2,100.
- (iii) Depreciate land and building 2% machinery 10%.
- (iv) Provision of 5% on debtors for bad debts required.

20. (a) Distinguish between receipts and payment a/c and income and expenditure a/c.

Or

- (b) Prepare an income and expenditure account of Dr. Surender and his balance sheet as and 31.12.2019 from the following receipts and payment a/c.

Receipts	Rs.	Payments	Rs.
To capital introduced	50,000	By furniture	10,000
To visits	50,000	By equipments	50,000
To receipts from client	55,000	By purchase of drug	30,000
To miscellaneous receipts	5,000	By salary	12,000
		By rent	4,000
		By office expense	1,000
		By conveyance	5,000
		By stationery	1,000
		By lighting	500
		By journals	1,500
		By drawings	10,000
		By balance a/c	35,000
	<u>1,60,000</u>		<u>1,60,000</u>

Amount still receivable an account on visit is Rs. 2,000. Salary of assistant still payable Rs. 400. 40% conveyance is for domestic purpose stock of drugs on hand Rs. 5,000. Furniture and equipments are both subject to depreciation at 10%.

(6 Pages)

Reg. No. :

**Code No. : 20415 E Sub. Code : SMCA 33/
AMCA 33**

B.C.A. (CBCS) DEGREE EXAMINATION,
NOVEMBER 2021.

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. URL is _____
(a) web address (b) website
(c) home page (d) protocol

2. _____ is global computer network.
(a) Internet (b) WAN
(c) LAN (d) WWW

3. Which of the following tag is used for inserting the largest heading in HTML?
- (a) <h3> (b) <h1>
(c) <h5> (d) <h6>
4. Which of the following tag is used to insert a line-break in HTML?
- (a)
 (b) <a>
(c) <pre> (d)
5. Which of the following tag is used to add rows in the table?
- (a) <td> and </td> (b) <th> and </th>
(c) <tr> and </tr> (d) None of the above
6. The actual content of webpage are placed in _____ section.
- (a) head (b) body
(c) link (d) document
7. Which of the following HTML attribute is used to define inline styles?
- (a) style (b) type
(c) class (d) none of the above

8. DHTML is _____ HTML.
- (a) Dynamic (b) Digital
(c) DLL (d) Double
9. The browser window is divided into multiple regions called _____
- (a) Style (b) Tables
(c) Sheets (d) Frames
10. _____ is a special tag that creates an interactive content.
- (a) Table (b) Frame
(c) Frameset (d) Form

PART B — (5 × 5 = 25 marks)

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

Each answer should not exceed 250 words.

11. (a) Explain in short about email.

Or

- (b) Write short notes on WWW.

12. (a) Describe in detail about img tag and its use, along with the attributes.

Or

- (b) What is hyperlink? How they are created?

13. (a) Write program to create an ordered list in html.

Or

- (b) Explain various attributes involved in table tag.

14. (a) Explain any four text formatting tags in HTML.

Or

- (b) Write down the features of DHTML.

15. (a) Write short notes on frame tag and its attribute.

Or

- (b) Explain in detail about form tag and its attribute.

PART C — (5 × 8 = 40 marks)

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

Each answer should not exceed 600 words.

16. (a) Explain importance of computers in business.

Or

- (b) Describe in detail about internet browser and its usage.

17. (a) Explain any ten common tags in HTML.

Or

- (b) Discuss in detail about attributes in hyperlink with an example.

18. (a) Explain the usage of list tag and different styles of unordered list.

Or

- (b) Explain in detail about nesting of tables with an example.

19. (a) What is DHTML? Analyse the difference between DHTML and HTML.

Or

- (b) Explain in detail about the various components involved in creation of DHTML.

20. (a) Discuss in detail about target attribute options and disadvantages of frames.

Or

- (b) Write a HTML program to get bio-data using forms.
-

(6 Pages)

Reg. No. :

Code No. : 30513 E Sub. Code : SMCA 41/
AMCA 41

B.C.A. (CBCS) DEGREE EXAMINATION, APRIL 2022

Fourth Semester

Computer Applications — Core

VISUAL BASIC

(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 _____ is used for browsing the properties, events and methods.
(a) Form layout window
(b) Code editor window
(c) Object browser
(d) Tool box

2. In Visual basic, a variable name cannot be more than ——— characters.

- (a) 255 (b) 256
(c) 300 (d) 350

3. MDI stands for _____

- (a) Multiple Design Interface
(b) Manipulated Document Interface
(c) Menu Design Interface
(d) Multiple Document Interface

4. The _____ control provides a number of properties to apply formatting to any portion of text within the control.

- (a) TextBox (b) ComboBox
(c) RichTextBox (d) ListBox

5. A _____ is a collection of object classes that model the structure of a relational database system.

- (a) Data access object (b) Recordset
(c) TableDef (d) QueryDef

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6. The _____ method creates a connection between the application and the ODBC database and assigns it to a database type object.

- (a) Remote data objects
- (b) OpenDatabase
- (c) OpenResultSet
- (d) None of the above

7. A _____ object represents a connection to a remote database that is used as a data source for the associated commands.

- (a) Remote (b) Data
- (c) Connection (d) Recordset

8. The _____ method can be used to specify an empty embedded object at run time.

- (a) CreatLink (b) CreateEmbed
- (c) ObjectMove (d) OLEType

9. The _____ control is used to create a hierarch that displays at least two or more levels of a database.

- (a) TreeView (b) ListView
- (c) ImageList (d) StatusBar

10. The _____ function is used to ignore the trailing blanks on the textboxes.

- (a) Clear() (b) Delete()
- (c) Cls() (d) Trim()

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 note on project explorer and properties window.

Or

(b) Elucidate the procedures in detail.

12. (a) Compare InputBox and MsgBox functions with example.

Or

(b) Explain graphics methods with example.

13. (a) Explain the major types of recordset objects.

Or

(b) Write about open database connectivity.



14. (a) Write short notes on SQL query designer.

Or

(b) Illustrate the OLEDragMode property and OLEDropMode property.

15. (a) Give an account on TreeView control.

Or

(b) Explain ADO Object model 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) Discuss about form properties and methods.

Or

(b) Describe the ListBox and ComboBox controls with example.

17. (a) Explain menu editor with example.

Or

(b) Describe FlexGrid control with example.

Page 5 Code No. : 30513 E

18. (a) Discuss the evolution of computing architecture.

Or

(b) Explain remote data objects.

19. (a) Elucidate data report in detail.

Or

(b) Explain OLE container control in detail.

20. (a) Describe the following ActiveX controls.

(i) SysInfo control

(ii) Slider control

(iii) Progress bar control

(iv) MSChart control.

Or

(b) Explain the following :

(i) Random access files

(ii) Sequential access files.

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(6 Pages)

Reg. No. :

Code No. : 30514 E Sub. Code : SMCA 42/
AMCA 42

B.C.A. (CBCS) DEGREE EXAMINATION, APRIL 2022

Fourth Semester

Computer Application — Core

E-COMMERCE

(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. _____ enables closed loop learning process by allowing the company to measure the quality of the processes constantly.
- (a) SCM (b) CPM
(c) TMM (d) CRM

2. Broadband access can be provided through an enhanced telephone service called
- (a) Least Line (b) ISD
(c) TELNET (d) DSL
3. _____ is the integration of business process from end user through to original supplier.
- (a) SCM (b) CRM
(c) CPM (d) MRO
4. _____ allows E business to provide customers with World's highest level of trust.
- (a) Confidentiality (b) Data integrity
(c) SSL certificate (d) Authentication
5. The jsp page mixes standard _____ with specialized jsp elements.
- (a) HTML (b) .net
(c) JAVA (d) Servlet
6. _____ offers inter operability testing program that covers device testing and content verification.
- (a) WECA (b) IEEE
(c) WAP (d) W3C

Page 2 Code No. : 30514 E



7. _____ refers to server based application that can be referenced and executed via a URL.

- (a) Web deployable
- (b) Web addressable
- (c) JAVA remote method
- (d) HR applications

8. Which is the only portable interface used in the early days of relational databases?

- (a) ODBC
- (b) OLE DB
- (c) Embedded SQL
- (d) JDBC

9. The _____ is used as an extension of Ethernet to wireless communication.

- (a) 802.11
- (b) 802.11a
- (c) 802.11b
- (d) 802.11g

10. _____ specialize in mobile phones with PDA capabilities using the palm OS.

- (a) Kyocera
- (b) Compaq
- (c) Palm
- (d) Symbol

Page 3 Code No. : 30514 E

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 benefits of SIP.

Or

(b) What is online trust? Explain.

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

Or

(b) How to avoid the challenges involved in ecommerce trust?

13. (a) Write a short note on wireless WANs.

Or

(b) Explain the different concerns for the mobile enterprise.

14. (a) Write the various challenges for E-business.

Or

(b) Write a short note on :

- (i) XML
- (ii) CORBA.

Page 4 Code No. : 30514 E

[P.T.O]



15. (a) Write a short note on web application development software.

Or

- (b) Write the ten worst security mistakes for IT professional.

PART C — (5 × 8 = 40 marks)

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

Each answer should not exceed 600 words.

16. (a) Write down the principles of an enterprises to adopt effective E-commerce technology.

Or

- (b) With the help of a neat diagram explain punch-out flow using WCBE and commerce integration.

17. (a) Explain the elements of E-business model.

Or

- (b) How to enable your website to process online payments in seconds?

18. (a) Explain how shopping car technology can be used in E-commerce departmental store.

Or

- (b) Write the necessary steps to be followed for building the prototype stage.

Page 5 Code No. : 30514 E

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

Or

- (b) Explain about online merchandising strategies.

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

Or

- (b) Explain various types of attacks recognized in the cyber crime.

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Reg. No. :

Code No. : 30515 E Sub. Code : SMCA 43/
AMCA 43

B.C.A. (CBCS) DEGREE EXAMINATION, APRIL 2022

Fourth Semester

Computer Application — Core

RESOURCE MANAGEMENT TECHNIQUES

(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. What is the objective function in linear programming problems?
 - (a) A constraint for available resource
 - (b) An objective for research and development of a company
 - (c) A linear function in an optimization problem
 - (d) A set of non-negativity conditions



2. All the parameters in the linear programming model are assumed to be _____
- (a) Variables (b) Constraints
(c) Functions (d) Both (a) and (b)
3. An assignment problem will have the following solution
- (a) optimal (b) unique
(c) multiple (d) all of the above
4. Maximization assignment problem is transformed into minimization problem by
- (a) Adding each entry in a column from the maximum value in that column
(b) Subtracting each entry in a column from maximum value in that column
(c) Subtracting each entry in the table from the maximum value in that table
(d) Any one of the above
5. The total time required to complete all the jobs sequencing problem is known as _____
- (a) idle time (b) processing time
(c) elapsed time (d) processing order

6. A connected network is such that every _____ distinct nodes are linked by atleast on one path.
- (a) two (b) three
(c) four (d) five
7. The activity can divided into _____ categories.
- (a) 2 (b) 3
(c) 4 (d) 5
8. The shortest possible completion time of the activity in PERT is called _____ time.
- (a) Pessimistic (b) Optimistic
(c) Most likely (d) Expected
9. 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) Biased game (b) Zero-sum game
(c) Fair game (d) All of the above
10. Which of the following aims at optimizing inventory level?
- (a) Inventory control
(b) Inventory capacity
(c) Inventory planning
(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) A retail store stocks two types of shirts *A* and *B*. These are packed in attractive cardboard boxes. During a week the store can sell a maximum of 400 shirts of type *A* and a maximum of 300 shirts of type *B*. The storage capacity, however, is limited to a maximum of 600 of both types combined. Type *A* shirt fetches a profit of Rs. 2/- per unit and type *B* a profit of Rs. 5/- per unit. How many of each type the store should stock per week to maximize the total profit? Formulate a mathematical model of the problem.

Or

- (b) Mention the procedures to solve LPP using Big M-method.
12. (a) Explain about travelling salesman problem formulation.

Or

- (b) Write short notes on assignment problem.

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13. (a) There are 6 jobs to be processed on machine *A*. The time required by each job on machine *A* is given in hours. Find the optimal sequence and the total time elapsed.

Job :	1	2	3	4	5	6
Time in hours machine A :	6	4	3	2	9	8

Or

- (b) Explain the terms : event, predecessor events, successor event, activity, dummy activity, network.
14. (a) A company manufacturing plant and equipment for chemical processing is in the process of quoting tender called by public sector undertaking. Help the manager to find the project completion time to participate in the tender. Also draw the network diagram.

S.No.	Activities		Days
1	A	-	3
2	B	-	4
3	C	A	5
4	D	A	6

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S.No.	Activities	Days
5	E C	7
6	F D	8
7	G B	9
8	H E,F,G	3

Or

- (b) Explain how time of an activity is estimated in PERT.
15. (a) Write the definition of two-person zero sum game.

Or

- (b) The demand for an item and the time period of consumption is given below. The carrying cost $C_1 = \text{Rs } 2$ / per unit and the ordering cost is $\text{Rs. } 75/-$ per order. Calculate economic order quantity and the cost of inventory.

Demand in units (r): 25 40 30 20 70

Period in months (t): 1 2 2 1 6

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PART C — (5 × 8 = 40 marks)

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

Each answer should not exceed 600 words.

16. (a) Use simplex method

$$\text{Maximize } Z = 5X_1 + 3X_2$$

[Subject to constraints]

$$X_1 + X_2 \leq 2$$

$$5X_1 + 2X_2 \leq 10$$

$$3X_1 + 8X_2 \leq 12$$

Where, $X_1, X_2 \geq 0$ non-negativity constraints.

Or

- (b) Use simple method

$$\text{Maximise } Z = 4X_1 + 3X_2$$

[Subject to constraints]

$$2X_1 + X_2 \leq 30$$

$$X_1 + X_2 \leq 24$$

Where $X_1, X_2 \geq 0$ (non-negativity constraints).

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17. (a) There are four jobs to be assigned to the machines. Only one job could be assigned to one machine. The amount of time in hours required for the jobs in a machine are given in the following matrix.

Job	Machines				
	A	B	C	D	E
1	4	3	6	2	7
2	10	12	11	14	16
3	4	3	2	1	5
4	8	7	6	9	6

Find an optimum assignment of jobs to the machines to minimize the total processing time and also, find for which machine no job is assigned. What is the total processing time to complete all the jobs?

Or

- (b) Write the comparison between assignment problem and transportation problem.
18. (a) Explain about network models, its features and advantages.

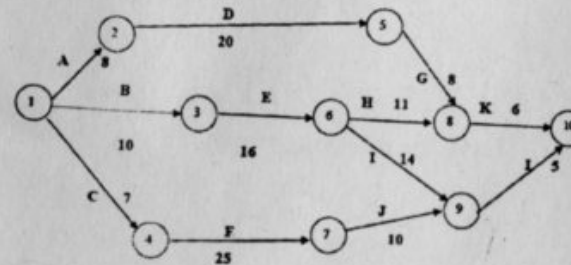
Or

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- (b) Construct the network diagram for a project with the following activities :

Activity Event → Event	Name of the activity	Immediate predecessor activity
1 → 2	A	-
1 → 3	B	-
1 → 4	C	-
2 → 5	D	A
3 → 6	E	B
4 → 6	F	C
5 → 6	G	D

19. (a) Find out the completion time and the critical activities for the following project.



Or

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- (b) Draw the network diagram. Find out the time, variance and standard deviation of the project with the following time estimates in weeks :

Activity	Optimistic time estimate (t_o)	Most likely time estimate (t_m)	Pessimistic time estimate (t_p)
1-2	3	6	9
1-6	2	5	8
2-3	6	12	18
2-4	4	5	6
3-5	8	11	14
4-5	3	7	11
6-7	3	9	15
5-8	2	4	6
7-8	8	16	18

20. (a) Solve the following game :

$$X \begin{matrix} & Y \\ \begin{pmatrix} 2 & 5 \\ 4 & 1 \end{pmatrix} \end{matrix}$$

Or

- (b) A manufacturer uses an item at a uniform rate of 25,000 units per year. Assume that no shortage is allowed and delivery is at an infinite rate. The ordering, receiving and hauling cost is Rs. 23 per order, while inspection cost is Rs. 22 per order. Interest costs is Rs. 0.056 and deterioration and obsolescence cost is Rs. 0.004 respectively per year for each item actually held in inventory plus Rs. 0.02 per year per unit based on the maximum number of units in inventory. Determine the EOQ. If lead time is 40 days, find reorder level.



Reg. No. :

**Code No. : 20079 B Sub. Code : JNMA 3 B/
JNMC 3 B/SNMA 3 B/
ANMA 32**

U.G. (CBCS) DEGREE EXAMINATION,
NOVEMBER 2021.

Third Semester

Mathematics/Mathematics with C.A.

Non Major Elective — FUNDAMENTALS OF
STATISTICS – I

(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. இரண்டு அல்லது அதற்கு மேற்பட்ட மாறிகளை ஒப்பிடுவதற்கு _____ வரைபடம் சிறந்தது.
(அ) பட்டை வரைபடம்
(ஆ) உருவப்படங்கள்
(இ) ஹிஸ்டோகிராம்
(ஈ) ஓகிவ்

For compaling 2 or more items, _____ diagram is ideal.

- (a) bar diagram (b) pictogram
(c) histrogram (d) ogive

2. _____ விளக்கப்படம் பொதுவாக நேர வரிசை தரவைக் குறிக்கப் பயன்படுத்தப்படுகிறது.

- (அ) கிடைமட்ட பட்டை
(ஆ) செங்குத்தான பட்டை
(இ) கனசதுர பட்டை
(ஈ) வட்டப் பட்டை

_____ charts are commonly used for presenting time series date.

- (a) Horizontal bar (b) Vertical bar
(c) Cubical bar (d) Circle bar

3. தொகுக்கப்பட்ட அதிர்வெண் விநியோகத்தின் இடைநிலைக்கான சூத்திரம்

(அ) $l + \frac{(N/2 - M)h}{f_K}$

(ஆ) $l + \frac{(N/2 + M)h}{f_K}$

(இ) $l + \frac{(N/2 - M)f_K}{h}$

(ஈ) $l + \frac{(N/2 + M)f_K}{h}$

Formula for median of a grouped frequency distribute

(a) $l + \frac{(N/2 - M)h}{f_K}$

(b) $l + \frac{(N/2 + M)h}{f_K}$

(c) $l + \frac{(N/2 - M)f_K}{h}$

(d) $l + \frac{(N/2 + M)f_K}{h}$

4. முகடு =

(அ) 3 இடைநிலை - 2 சராசரி

(ஆ) 2 இடைநிலை - 3 சராசரி

(இ) 3(சராசரி - இடைநிலை)

(ஈ) 2 இடைநிலை + 3 சராசரி

Mode = _____

(a) 3 median - 2 mean

(b) 2 median - 3 mean

(c) 3 (mean - median)

(d) 2 median + 3mean

5. காலாண்டு விலகல் சூத்திரம் —————

(அ) $\frac{1}{2}(Q_3 - Q_1)$ (ஆ) $\frac{1}{2}(Q_1 - Q_3)$

(இ) $\frac{Q_3 + Q_1}{2}$ (ஈ) இவை ஏதுவுமில்லை

Formula for Quartile deviation is —————

(a) $\frac{1}{2}(Q_3 - Q_1)$ (b) $\frac{1}{2}(Q_1 - Q_3)$

(c) $\frac{Q_3 + Q_1}{2}$ (d) None of these

6. நிலையான சதுர விலகல் அலைவெண் பரவல் எவ்வாறு அழைக்கப்படுகிறது?

(அ) காலாண்டு விலகல்

(ஆ) மாறுபாடு

(இ) சராசரி சதுர விலகல்

(ஈ) இவை ஏதுவுமில்லை

The square of the standard deviation of frequency distribution is called

(a) Quartile deviation

(b) Variance

(c) Mean square deviation

(d) None of these

7. சிதறல் வரைபடம் _____ஐக் கண்டுபிடிக்க பயன்படுத்தப்படுகிறது.

(அ) சராசரி (ஆ) திட்டவிலகல்

(இ) ஒட்டுறவு (ஈ) இவை ஏதுவுமில்லை

Scatter diagram is used to find _____

(a) mean (b) standard deviation

(c) correlation (d) none of these

8. தரவரிசை தொடர்பில், எப்பொழுதும் Σdi மதிப்பு _____

(அ) 0 (ஆ) 1

(இ) -1 (ஈ) இவை ஏதுவுமில்லை

In the rank correlation, value of Σdi always _____

(a) 0 (b) 1

(c) -1 (d) none of these

9. ஒட்டுறவுக் கெழு என்பது தொடர்பு கெழுக்களின் _____.

(அ) பெருக்கு சராசரி (ஆ) இசை சராசரி

(இ) கூட்டுச் சராசரி (ஈ) இடைநிலை

Correlation coefficient is the _____ between regression coefficient.

- (a) Geometric mean
- (b) Harmonic mean
- (c) Arithmetic mean
- (d) Median

10. $r = 1$ என்னும் போது இரண்டு தொடர்பு கோடுகள் _____ இருக்கும்.

- (அ) செங்குத்தாக (ஆ) இணையாக
- (இ) பொருத்துவரை (ஈ) இவை ஏதுவுமில்லை

When $r = 1$ then the two regression lines are _____

- (a) perpendicular (b) parallel
- (c) coincident (d) none of these

PART B — (5 × 5 = 25 marks)

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

11. (அ) தரவு வகைப்பாட்டின் நோக்கத்தை எழுதுக.

Write the objectives of classification of data.

Or

(ஆ) பட்டை வரைபடத்தை வரையறுத்து அதற்கு எடுத்துக்காட்டு தருக.

Define a bar diagram give example for it.

12. (அ) 40 மாணவர்கள் அடங்கிய குழுவின் சராசரி எடை 58 கிலோவாக கணக்கிடப்பட்டது. ஒரு மாணவரின் எடை 57 கிலோவுக்கு பதிலாக 75 கிலோ என தவறாகக் கணக்கிடப்பட்டது. பின்னர் கண்டுபிடிக்கப்பட்டது. சரிசெய்யப்பட்ட சராசரியைக் கண்டறியவும்.

The average weight for a group of 40 students was calculated to be 58 Kgs. It was later discovered that weight of one student was misread as 75 kgs instead of the correct weight 57 kgs. Find the corrected average.

Or

- (ஆ) இடைநிலையின் நிறைகளை எழுதுக.

Write the merits of median.

13. (அ) பின்வருவனவற்றிற்கு திட்ட விலக்கத்தை கணக்கிடுக.

X : 4-6 6-8 8-10 10-12 12-14

f : 10 17 32 21 20

Find the standard deviation for the following.

X : 4-6 6-8 8-10 10-12 12-14

f : 10 17 32 21 20

Or

(ஆ) 391, 384, 591, 407, 672, 522, 733, 777, 1490, 2488 க்கு காலாண்டு விலக்கத்தை காண்க.

Find the quartile deviation for 391, 384, 591, 407, 672, 522, 733, 777, 1490, 2488.

14. (அ) $\Sigma x = 300$ $\Sigma x^2 = 3750$ $\Sigma y = 210$, $\Sigma y^2 = 1950$, $\Sigma xy = 2070$ எனில் ஒட்டுறவுக் கெழுவை காண்க.

Calculate correlation coefficient between $\Sigma x = 300$ $\Sigma x^2 = 3750$ $\Sigma y = 210$, $\Sigma y^2 = 1950$, $\Sigma xy = 2070$.

Or

(ஆ) பின்வருவனவற்றிற்கு வரிசை ஒட்டுறவைக் கண்டுபிடி.

X	110	100	140	120	80	90
Y	70	60	80	60	10	20

Find the rank correlation for the following data.

X	110	100	140	120	80	90
Y	70	60	80	60	10	20

15. (அ) X ல் Y ன் தொடர்புக் கோட்டை கணக்கிடுக.

X:	1	2	3	4	5	6	7	8	9
Y:	9	8	10	12	11	13	14	16	15

Calculate the regression line of Y on X .

X :	1	2	3	4	5	6	7	8	9
Y :	9	8	10	12	11	13	14	16	15

Or

(ஆ) $\Sigma X = 130, \Sigma Y = 220, \Sigma X^2 = 2288, \Sigma Y^2 = 5506$
மற்றும் $\Sigma XY = 3467$ எனக் கொடுக்கப்பட்டுள்ளது.
 X -ன் மேல் Y -ன் தொடர்க்கோட்டைக் கண்டுபிடி
மற்றும் X -ன் மதிப்பு 16ஆக இருக்கும் போது
 Y -ன் மதிப்பைக் காண்க.

Given $\Sigma X = 130, \Sigma Y = 220, \Sigma X^2 = 2288,$
 $\Sigma Y^2 = 5506$ and $\Sigma XY = 3467$. Obtain the
line of regression of Y on X and estimate
the value of Y when $X = 16$.

PART C — (5 × 8 = 40 marks)

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

16. (அ) பின்வரும் தரவுகளுக்கு, தொடர்ச்சியான
அதிர்வெண் பரவலை உருவாக்கு.
- 22, 21, 37, 33, 28, 42, 56, 33, 32, 59,
40, 47, 29, 65, 45, 48, 55, 43, 42, 40,
37, 39, 56, 54, 38, 49, 60, 37, 28, 27,
32, 33, 47, 36, 35, 42, 43, 55, 53, 48,
29, 30, 32, 37, 43, 54, 55, 47, 38, 62.

For the following data form the continuous frequency distribution.

22, 21, 37, 33, 28, 42, 56, 33, 32, 59,
40, 47, 29, 65, 45, 48, 55, 43, 42, 40,
37, 39, 56, 54, 38, 49, 60, 37, 28, 27,
32, 33, 47, 36, 35, 42, 43, 55, 53, 48,
29, 30, 32, 37, 43, 54, 55, 47, 38, 62.

Or

(ஆ) இந்தியாவின் மக்கள் தொகையின் பெரும்பான்மை மதக்குழுவிற்கான 'பை' வரைபடத்தை வரைக.

இந்துக்கள் - 76%, கிறிஸ்துவர்கள் - 11%,
முஸ்லீம்கள் - 13%, 1% கோண அளவு 3.6° .

Draw pie chart with the population of India by major religions groups.

Hindus - 76%, Christians - 11%, Muslims - 13%, Angle for 1% = 3.6° .

17. (அ) இடைநிலையை கணக்கிடுக.

X : 0-5 5-10 10-15 15-20 20-25

f : 3 8 10 10 9

X : 25-30 30-35 35-40 40-45 45-50

f : 7 21 15 11 6

Calculate median for

X : 0-5 5-10 10-15 15-20 20-25

f : 3 8 10 10 9

X : 25-30 30-35 35-40 40-45 45-50

f : 7 21 15 11 6

Or

(ஆ) முகடை கணக்கிடுக :

X : 20-24 25-29 30-34 35-39 40-44 45-49 50-54 55-59

f : 5 5 10 20 12 6 3 1

Find the mode for

X : 20-24 25-29 30-34 35-39 40-44 45-49 50-54 55-59

f : 5 5 10 20 12 6 3 1

18. (அ) காலாண்டு விலகலை கணக்கிடுக.

X : 100 200 400 500 600

f : 5 8 21 12 6

Find the Quartile Deviation for

X : 100 200 400 500 600

f : 5 8 21 12 6

Or

(ஆ) கீழே கொடுக்கப்பட்டுள்ளவற்றிற்கு திட்ட விலக்கம் காண்க.

X : 20-40 40-60 60-80 80-100 100-120 120-140 140-160
 f : 10 14 25 48 33 24 16

Find the standard deviation for

X : 20-40 40-60 60-80 80-100 100-120 120-140 140-160
 f : 10 14 25 48 33 24 16

19. (அ) உயரத்திற்கும் (X) எடைக்கும் (Y) இடையேயான ஒட்டுறவுக் கெழுவைக் கணக்கிடுக.

உயரம் X : 57 59 62 63 64 65 55 58 57
எடை Y : 113 117 126 126 130 129 111 116 112

Find the correlation between height (X) and weight (Y).

X : 57 59 62 63 64 65 55 58 57
 Y : 113 117 126 126 130 129 111 116 112

Or

(ஆ) தர ஒட்டுறவு கெழுகைக் காண்க.

தர வரிசை 1 1 6 5 10 3 2 4 9 7 8
தர வரிசை 2 3 5 8 4 7 10 2 1 6 9
தர வரிசை 3 6 4 9 8 1 2 3 10 5 7

Calculate rank correlation for the following data.

Rank 1	1	6	5	10	3	2	4	9	7	8
Rank 2	3	5	8	4	7	10	2	1	6	9
Rank 3	6	4	9	8	1	2	3	10	5	7

20. (அ)

X:	87	84	88	102	101	84	72	84	83	98	97	100
Y:	88	79	83	97	96	90	82	84	88	100	80	102

- (i) X ல் Y ன் தொடர் கோட்டை பொருத்துக.
(ii) X ன் மதிப்பு 110ஆக இருக்கும் போது Y ன் மதிப்பு என்னவாக இருக்கும்?

X:	87	84	88	102	101	84	72	84	83	98	97	100
Y:	88	79	83	97	96	90	82	84	88	100	80	102

- (i) Fit a line of regression of Y on X .
(ii) What the value of Y will be when X is expected to be 110?

Or

(ஆ) இரண்டு தொடர்புகோடுகளுக்கான சமன்பாட்டை தருவி. மேலும் $Y = 70$ ஆக இருக்கும் போது X ன் மதிப்பை கணக்கிடுக.

X:	65	66	67	67	68	69	70	72
Y:	67	68	65	68	72	72	69	71

Obtain the equations of two lines of regression for the following data. Also estimate of X for $Y = 70$.

X : 65 66 67 67 68 69 70 72

Y : 67 68 65 68 72 72 69 71

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Code No. : 30569 E Sub. Code : ANMA 42

U.G. (CBCS) DEGREE EXAMINATION, APRIL 2022

Fourth Semester

Mathematics

Non Major Elective — FUNDAMENTALS OF
STATISTICS — II

(For those who joined in July 2020 onwards)

Time : Three hours Maximum : 75 marks

PART A — (10 × 1 = 10 marks)

Answer ALL questions.

Choose the correct answer :

1. Attributes A and B are said to be negatively associated, if _____

(a) $(AB) > \frac{(A) \times (B)}{N}$

(b) $(AB) = \frac{(A) \times (B)}{N}$

(c) $(AB) < \frac{(A) \times (B)}{N}$

(d) None of these

2. Class frequencies of type $(\alpha B), (A\beta), (A\beta\gamma), (\alpha\beta C)$... known as _____

- (a) positive class frequencies
- (b) negative class frequencies
- (c) contrary frequencies
- (d) none of these

3. Arithmetic mean of Paasche and Laspeyre index numbers in _____

- (a) Bowley index number
- (b) Fisher index number
- (c) Marshall Edgeworth index number
- (d) Kelly index number

4. Aggregate expenditure method of cost of living index is nothing but the following _____

- (a) Marshall index
- (b) Laspeyre's index
- (c) Fisher's index
- (d) Bowley's index

5. Formula for 'cost of finding index' is _____

(a) $\frac{\Sigma PV}{\Sigma V}$

(b) $\frac{\Sigma V}{\Sigma P}$

(c) $\frac{\Sigma V}{\Sigma PV}$

(d) $\frac{\Sigma P}{\Sigma V}$

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6. Cost of living index number I_{01} is _____

(a) $\frac{\sum p_0 q_0}{\sum p_1 q_0} \times 100$ (b) $\frac{\sum p_1 q_0}{\sum q_1 p_0} \times 100$

(c) $\frac{\sum p_0 q_0}{\sum p_1 q_1} \times 100$ (d) $\frac{\sum p_1 q_0}{\sum p_0 q_0} \times 100$

7. Floods and lockouts are example for _____

- (a) secular trend (b) seasonal variation
(c) cyclical variation (d) random variation

8. There are _____ models of time series.

- (a) 2 (b) 3
(c) 4 (d) 5

9. Number of normal equation to fit a straight line by method of least squares is _____

- (a) 1 (b) 3
(c) 2 (d) 4

10. Least square method to fit a trend is _____

- (a) most exact
(b) not suitable
(c) full of subjectivity
(d) mathematically wrong

PART B — (5 × 5 = 25 marks)

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

Each answer should not exceed 250 words.

11. (a) If $(AB) = 975$, $(\alpha B) = 100$, $(A\beta) = 25$,
 $(\alpha\beta) = 950$ find (A) , (B) , (α) , (β) and N .

Or

(b) Show that the relation between Yule's coefficient (Q) and the coefficient of colligation Y is $Q = \frac{2Y}{1+Y^2}$.

12. (a) Define factor reversal and time reversal test.

Or

(b) From the following table construct the index number taking 1990 as base.

Years	1987	1988	1989	1990	1991	1992
Price of rice per kg	5	6	6.5	7	7.5	8



13. (a) Find the cost of living index number for the following data by using family budget method.

Commodity	Price in Rs.		Quantity in Quinta's in 1991
	1991	1992	
Rice	7	7.5	6
Wheat	6	6.75	3.5
Flour	5	5	0.5
Oil	30	32	3
Sugar	8	8.5	1

Or

- (b) From the fixed base index numbers given below prepare a chain base index numbers.

Year	1975	1976	1977	1978	1979	1980
Fixed base index number	90	105	102	98	120	125

14. (a) Define time series. Also explain the uses of time series analysis.

Or

- (b) Draw a trend line by the method of semi-averages.

Year	1987	1988	1989	1990	1991	1992	1993
Production (in tones)	90	110	130	150	100	150	200

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15. (a) Explain the method of fitting the curve $Y = ae^{bx}$.

Or

- (b) Fit a straight line to the following data.

x	0	1	2	3	4
y	2.1	3.5	5.4	7.3	8.2

PART C — (5 × 8 = 40 marks)

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

Each answer should not exceed 600 words.

16. (a) Give n attributes, prove the following

- Total number of class frequencies is 3^n
- Total number of positive class frequencies is 2^n
- Total number of negative class frequencies is $2^n - 1$.

Or

- (b) If $\frac{(A)}{N} = x, \frac{(B)}{N} = 2x, \frac{(C)}{N} = 3x$ and $\frac{(AB)}{N} = \frac{(AC)}{N} = \frac{(BC)}{N} = y$, prove that neither x nor y exceed $\frac{1}{4}$.

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17. (a) Calculate (i) Laspeyre's (ii) Paasches (iii) Fishers index numbers of the following data given below. Hence or otherwise find Edgworth and Bowley's index numbers.

Commodities	Base year 1990		Current year 1992	
	Price	Quantity	Price	Quantity
A	2	10	3	12
B	5	16	6.5	11
C	3.5	18	4	16
D	7	21	9	25
E	3	11	3.5	20

Or

- (b) Prove that Fishers index number is an ideal index number.

18. (a) Explain the method of constructing the cost of living index number.

Or

- (b) Explain, conversion of index number.

19. (a) Explain moving average method to measure trend values. Also state its merits and demerits.

Or

- (b) Fit a straight line trend by using method of least squares.

Year	1990	1991	1992	1993	1994	1995
Production	72	75	74	78	83	82

20. (a) Fit a curve of the form $Y = ab^x$ to the following data.

Year	1951	1952	1953	1954	1955	1956	1957
Production in tons (Y)	201	263	314	395	427	504	612

Or

- (b) Fit a second degree Parabola for the following data.

X	1	2	3	4	5	6	7
Y	2.3	5.2	9.7	16.5	29.4	35.5	54.4



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Reg. No. :

**Code No. : 20423 E Sub. Code : SSCA 3 A/
ASC A 31**

B.C.A. (CBCS) DEGREE EXAMINATION,
NOVEMBER 2021.

Third Semester

Computer Application

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 answers :

1. The PHP _____ statement is used to terminate the execution of a loop prematurely.
(a) continue (b) break
(c) default (d) case

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 purpose of variables? Explain the rules for variables.

Or

- (b) Explain the PHP logical operators.

12. (a) Distinguish between indexed arrays and associative arrays.

Or

- (b) List out the rules for naming the functions.

13. (a) Illustrate the types of file modes in PHP.

Or

- (b) Write note on fgets() function with an example.

14. (a) How to create a table in MySQL? Explain.

Or

- (b) Discuss the sorting and filtering retrieved data in MySQL.

15. (a) Explain the `mysql_connect()` function.

Or

(b) How to terminate the Database connection?
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 the features of PHP.

Or

(b) Discuss the conditional statements in PHP.

17. (a) How to create an Array in PHP? Explain with an example.

Or

(b) Describe the file handling mechanism in PHP.

18. (a) Explain the function `fgetc()` and `file_get_contents()`.

Or

(b) Write note on `fseek()` function in PHP with an example.

19. (a) Explain the aggregate functions in MySQL.

Or

(b) Describe the data types used in MySQL.

20. (a) Explain the MySQL date functions.

Or

(b) Discuss the usage of MySQL commands in PHP.

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Code No. : 30527 E Sub. Code : SSCA 4 A/
ASCA 41

B.C.A. (CBCS) DEGREE EXAMINATION, APRIL 2022

Fourth Semester

Computer Applications

Skill Based Subject — MICROPROCESSOR

(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. Which of these is the architecture of microprocessor?
- (a) CISC (b) RISC
- (c) Both (a) and (b) (d) None of these

2. RISC stands for
- (a) Reduced Instruction Set Computer
- (b) Reduced Integrated Set Computer
- (c) Resource Instruction Set Computer
- (d) Resource Instruction System Computer
3. ALE demultiplexes the _____ and _____
- (a) Data bus, low order address bus
- (b) Data bus, high order address bus
- (c) Data bus, address bus
- (d) All of the above
4. 8085 microprocessor zero flag is set if _____ results zero.
- (a) I/O operation (b) Memory operation
- (c) Mux operation (d) ALU operation
5. The _____ ensures that only one IC is active at a time to avoid a bus conflict caused by two ICs writing different data to the same bus.
- (a) Control bus
- (b) Control instructions
- (c) Address decoder
- (d) CPU

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6. The technique of assigning a memory address to each I/O device in the computer system is called
- (a) memory – mapped I/O
 - (b) ported I/O
 - (c) dedicated I/O
 - (d) wired I/O
7. A computer program that converts an entire program into machine language at one time is called a/an
- (a) Interpreter (b) Simulator
 - (c) Compiler (d) Commander
8. The advantage of RISC processor over CISC processor is that
- (a) The hardware architecture is simpler
 - (b) An instruction can be executed in one cycle
 - (c) Less number of registers accommodate in chip
 - (d) Parallel execution capabilities
9. What is the output of the following code PUSH AL?
- (a) Decrement SP by 2 and push a word to stack
 - (b) Increment SP by 2 and push a word to stack
 - (c) Decrement SP by 2 and push an AL to stack
 - (d) Illegal

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10. What is the function of watchdog timer?
- (a) The watchdog timer is an external timer that resets the system if the software fails to operate properly
 - (b) The watchdog timer is an internal timer that sets the system if the software fails to operate properly
 - (c) The watchdog timer is an internal timer that resets the system if the software fails to operate properly
 - (d) None of them

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 functions of flags in 8085 microprocessor.

Or

- (b) Write a brief note on Z-80 microprocessor.

12. (a) Explain the term : Instruction cycle.

Or

- (b) Explain the timing diagram for opcode fetch.

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[P.T.O]



13. (a) Explain what is vectored interrupt.

Or

(b) Discuss the function of DMA data controller 8257.

14. (a) Explain how an A/D converter can be realized employing a D/A converter.

Or

(b) Write a note on display interface.

15. (a) What are co-processors? Explain with example.

Or

(b) Explain the importance of multi bus.

PART C — (5 × 8 = 40 marks)

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

Each answer should not exceed 600 words.

16. (a) Draw the architecture of 8085 microprocessor and explain the functions of each block.

Or

(b) Explain in detail the various addressing modes in 8085 microprocessor.

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17. (a) With suitable diagrams, explain the timing diagram for memory read and write cycle.

Or

(b) Write an assembly language program to add two 8-bit numbers, the sum may be of 16 bits.

18. (a) Explain the different operating modes of 8255A PPI.

Or

(b) Describe the programmable interrupt controller 8259.

19. (a) Explain the interfacing of A/D converter to 8085 microprocessor.

Or

(b) Explain the interfacing techniques of stepper motor with 8085 microprocessor.

20. (a) Give detail account on bus interface controller.

Or

(b) Explain the following :

(i) RS232 bus standard and

(ii) GPIO.

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Reg. No. :

Code No. : 12028 B Sub. Code : SYOG 3 A/
AYOG 31

U.G. (CBCS) DEGREE EXAMINATION,
NOVEMBER 2021.

Third Semester

Part – IV

YOGA

(For those who joined in July 2017 onwards)

Time : One and half hours Maximum : 50 marks

Answer ALL questions.

Choose the correct answer :

1. உடல், மனம் மற்றும் ஆன்மீக நல்வாழ்வை மேம்படுத்த
உதவுவது

(அ) உடற்பயிற்சி(ஆ) ஏரோபிக்ஸ்

(இ) யோகா (ஈ) உணவு

————— helps to promote physical, mental and
spiritual well-being.

(a) Exercise (b) Aerobics

(c) Yoga (d) Diet

2. கீழே கொடுக்கப்பட்டதில் எது உடம்பின் ஆரோக்கியத்திற்கு உதவுகிறது?

- (அ) ஆசனம் (ஆ) பிராணையா
(இ) முத்திரைகள் (ஈ) எதுவும் இல்லை

_____ help in the healthy functioning of the human body.

- (a) Asanas (b) Pranayama
(c) Mudras (d) All of these

3. உணர்ச்சிகளை பயன்படுத்தி, _____ மூலம் பார்க்க, கேட்க, அல்லது அறிந்து கொள்ள முடியும்.

- (அ) கவனம் (ஆ) கற்றல்
(இ) கருத்து (ஈ) நினைவு

_____ is the ability to see, hear, or become aware of something through the senses.

- (a) Attention (b) Learning
(c) Perception (d) Memory

4. ஞானத்தின் பாதை

- (அ) ராஜ யோகா (ஆ) ஞான யோகா
(இ) பக்தி யோகா (ஈ) கர்ம யோகா

_____ is the path of wisdom.

- (a) Raja yoga (b) Jnana yoga
(c) Bhakti yoga (d) Karma yoga

5. இவற்றுள் எவை எதிர்மறை உணர்ச்சி அல்ல?

(அ) வெறுப்பு (ஆ) பொறாமை

(இ) கோபம் (ஈ) அனுதாபம்

————— is not a negative emotion?

(a) Hatred (b) Jealousy

(c) Anger (d) Sympathy

6. உடல் நல்வாழ்வு நிலை என்பது எதை குறிக்கிறது

(அ) மன ஆரோக்கியம்

(ஆ) சமூக ஆரோக்கியம்

(இ) உடல் ஆரோக்கியம்

(ஈ) உணர்ச்சி ஆரோக்கியம்

A state of physical well-being is called

(a) Mental health (b) Social health

(c) Physical health (d) Emotional health

7. தோற்றத்தின்படி, எத்தனை வகையான ஆசனங்கள் உள்ளன?

(அ) 1 (ஆ) 2

(இ) 3 (ஈ) 4

According to posture, asanas are classified in to

(a) 1 (b) 2

(c) 3

(d) 4

8. மாற்று நாசி சுவாசம் என அழைக்கப்படுவது ———

(அ) சித்தலி பிராணாயாமம்

(ஆ) பிரம்மாரி பிராணாயாமம்

(இ) நாடிசோதனா

(ஈ) எதுவும் இல்லை

Alternate nostril breathing is also called as ———

(a) Sithali pranayama

(b) Bhramari pranayama

(c) Nadisodhana

(d) None

9. கவனப் பயிற்சி எது?

(அ) ஞானம் (ஆ) தியானம்

(இ) ஆசனம் (ஈ) பிராணாயாமம்

Attention training also known as

(a) Wisdom (b) Meditation

(c) Asana (d) Pranayama

10. இந்தியாவில் சர்வதேச யோகா கொண்டாட்டம் எந்த அமைச்சகத்தால் செய்யப்படுகிறது?

(அ) ஆயுஷ் அமைச்சகம்

(ஆ) சிவில் விமான போக்குவரத்து அமைச்சகம்

(இ) தகவல் தொடர்பு அமைச்சகம்

(ஈ) மனித வள மற்றும் மேம்பாட்டு அமைச்சகம்

Celebration of international yoga in India is done by which Ministry?

- (a) Ministry of Ayush
- (b) Ministry of civil aviation
- (c) Ministry of communication
- (d) Ministry of human resource and development

11. கோப்ரா போஸ் என்று அழைக்கப்படுவது

- (அ) பத்மசனா (ஆ) சலபாசனா
- (இ) புஜங்காசனா (ஈ) எதுவுமில்லை

Cobra pose is also called as

- (a) Padmasana (b) Salabhasana
- (c) Bhujangasana (d) None

12. டெல்டா அதிர்வெண் அலைகள் வினாடிக்கு _____ சுழற்சி ஏற்படுகிறது.

- (அ) 8 முதல் 12 (ஆ) 30 முதல் 100
- (இ) 4 முதல் 7 (ஈ) 1 முதல் 4 வரை

Delta waves occur frequency from _____ cycles per second.

- (a) 8 to 12 (b) 30 to 100

(c) 4 to 7 (d) 1 to 4

13. யோகா பயிற்சிக்கான உடை எவ்வாறு இருக்க வேண்டும்?

(அ) இறுக்கமான ஜீன்ஸ்

(ஆ) விலை உயர்ந்த மற்றும் அதிநவீன ஆடைகள்

(இ) தலை முதல் கால் வரை மூடிய ஆடை

(ஈ) தளர்வான மற்றும் பொருத்தமான ஆடை

Dress of Yoga practice should be _____

(a) Tight fitting jeans

(b) Costly and sophisticated dresses

(c) Protective covering from head to toe

(d) Loose fitting and comfortable

14. ஒவ்வொரு யோகா ஆசிரியரும் பயிற்சி தொடங்க வேண்டிய பிரிவு

(அ) பிராணாயாமா (ஆ) ஆசனம்

(இ) கிரியா (ஈ) இறை வணக்கம்

Every yoga teacher must start the practice session with

(a) Pranayama (b) Asana

(c) Kriya (d) Prayer

15. சுவாசம் வெளியே _____ அழைக்கப்படுகிறது.

(அ) புரகா (ஆ) சும்பகா

(இ) ரேச்சகா (ஈ) எதுவுமில்லை

Exhalation is known as

- (a) Puraka (b) Kumbhaka
(c) Rechaka (d) None

16. வடிகட்டுதல் என்பது _____ன் முதன்மை செயல்பாட்டில் ஒன்றாகும்.

- (அ) நுரையீரல் (ஆ) இதயம்
(இ) கல்லீரல் (ஈ) சிறுநீரகம்

Filtration is one of the primary functions of

- (a) Lung (b) Heart
(c) Liver (d) Kidney

17. யோகாவின் எத்தனை நிலைகள் குறிப்பிடப்பட்டுள்ளன?

- (அ) 7 (ஆ) 8
(இ) 4 (ஈ) 3

How many limbs of Yoga?

- (a) 7 (b) 8
(c) 4 (d) 3

18. சூர்யனமாஸ்கர் எத்தனை வித்தியாசமான ஆசனங்களைக் கொண்டுள்ளது?

- (அ) 12 (ஆ) 7

(இ) 10 (ஈ) 8

How many different asanas does Suryanamaskar comprise of?

(a) 12 (b) 7

(c) 10 (d) 8

19. சர்வதேச யோகா தினம் கொண்டாடப்படும் நாள்

(அ) ஜூன் 21 (ஆ) ஏப்ரல் 21

(இ) ஜூலை 21 (ஈ) ஜூன் 12

International day of yoga celebrate on

(a) June 21 (b) April 21

(c) July 21 (d) June 12

20. கபாலபாதி சிகிச்சை எதற்கு பயனுள்ளதாக இருக்கும்?

(அ) சினூசிடீஸ் (ஆ) ஆஸ்துமா

(இ) மூளை நோய்கள் (ஈ) இவை அனைத்தும்

Kapalabhati is useful in treating

(a) Sinusitis

(b) Asthma

(c) Bronchial infections

(d) All of these

21. மகரசனா ————— தோற்றம் போல தோன்றுகிறது.

(அ) முயல் (ஆ) தண்டு ட்விஸ்ட்

(இ) முதலை (ஈ) இறந்த உடல்

Makarasana looks like a ————— posture.

- (a) Hare (b) Spinal twist
(c) Crocodile (d) Dead body

22. தியானம் ஒரு சிறந்த வழி

(அ) அழுத்தத்தை குறைக்க

(ஆ) கலோரிகள் எரிக்கவும்

(இ) வலிமையை வளர்ப்பது

(ஈ) எதுவும் இல்லை

Meditation is a great way to

- (a) Reduce stress
(b) Burn calories
(c) Develop strength
(d) None

23. மனித மூளையின் நினைவாற்றல் திறமைகள் எது?

(அ) என்கோடு மற்றும் சேமித்தல்

(ஆ) தக்கவைத்து பின்னர் தகவலை நினைவுபடுத்துகிறது

(இ) கடந்த அனுபவங்கள்

(ஈ) இவை அனைத்தும்

Memory is our ability to ————— in the human brain.

- (a) Encode and store
- (b) Retain and subsequently recall information
- (c) Past experiences
- (d) All of these

24. இயக்கத்தில் ஈடுபடும் தசைகள்

- (அ) எலும்பு தசை
- (ஆ) மென்மையான தசை
- (இ) இதய தசை
- (ஈ) மேற்கூறிய எதுவும் இல்லை

Muscles involved in movement is

- (a) Skeletal muscle
- (b) Smooth muscle
- (c) Cardiac muscle
- (d) None of the above

25. சமாதி என்பது?

- (அ) பகல் கனவு
- (ஆ) தூக்க நிலை
- (இ) ஆனந்தமன நிலை
- (ஈ) உட்கார்ந்திருக்கும் நிலை

Samadhi is —————

- (a) A trance
- (b) A state of sleep
- (c) A state of joyful calm
- (d) A state of sitting

26. ஒரு பொருள், படம், ஒலி இவற்றில் மனதை நிலைப்படுத்துவது —————

- (அ) தாரணை (ஆ) தியானம்
- (இ) சமாதி (ஈ) பிரத்தியாகாரம்

Stabilize and focus the mind on one object, image, sound is

- (a) Dharana (b) Dhyana
- (c) Samadhi (d) Pratyahara

27. சூர்யனமாஸ்கர் எப்து நன்கு வடிவமைக்கப்பட்ட —————
மற்றும் சுவாச பயிற்சியின் கலவையாக உள்ளது.

- (அ) பிராணயாமா (ஆ) தியானா
- (இ) பந்தா (ஈ) ஆசனா

Suryanamaskar is a well-devised combination of ————— and breathing.

- (a) Pranayama (b) Dhyana
- (c) Bandha (d) Asana

28. ஒரு குழு சூழ்நிலையில் தீர்ப்புகள் செய்ய திறன்

- (அ) மன ஆரோக்கியம்
(ஆ) சமூக ஆரோக்கியம்
(இ) உடல் ஆரோக்கியம்
(ஈ) உணர்ச்சி ஆரோக்கியம்

The ability to make judgments in a group situation

- (a) Mental health (b) Social health
(c) Physical health (d) Emotional health

29. யோகா பயிற்சி செய்வது மூலம் ஒரு நபரின் —————
கட்டுப்படுத்த உதவுகிறது?

- (அ) மனம் (ஆ) ஆத்மா
(இ) உடல் (ஈ) இவை அனைத்தும்

The art of practicing yoga, helps in controlling an individual's —————

- (a) Mind (b) Soul
(c) Body (d) All the above

30. கட்டமைப்பு ஆதரவு மற்றும் இயக்கத்திற்கு பொறுப்பான
உடல் அமைப்பு —————

- (அ) இருதய அமைப்பு (ஆ) நாளமில்லா அமைப்பு
(இ) தசை அமைப்பு (ஈ) எலும்பு அமைப்பு

The body system responsible for structural support and movement is the _____

- (a) Cardiovascular system
- (b) Endocrine system
- (c) Muscular system
- (d) Skeletal system

31. அதிக அதிர்வெண் கொண்ட மூளை அலைகள் எவ்வாறு அழைக்கப்படுகிறது

- (அ) காமா (ஆ) பீட்டா
- (இ) ஆல்ஃபா (ஈ) தீட்டா

The highest frequency of brain waves is called as

- (a) Gamma (b) Beta
- (c) Alpha (d) Theta

32. இரத்த சுழற்சி மண்டலத்தின் பகுதி எது?

- (அ) சிறுநீரகம் (ஆ) நுயூரான்
- (இ) இதயம் (ஈ) நுரையீரல்

The organ in circulatory system is

- (a) Kidney (b) Neuron
- (c) Heart (d) Lungs

33. மனித உடலின் கட்டமைப்பு மற்றும் செயல்பாடு அலகு
_____ ஆகும்.

- (அ) திசு (ஆ) செல்
(இ) உறுப்பு (ஈ) அமைப்பு

The structural and functional unit of human body is

- (a) Tissue (b) Cell
(c) Organ (d) System

34. மனித உடலின் அமைப்பு பற்றி படிப்பது _____
என்று அழைக்கப்படுகிறது.

- (அ) சைட்டாலஜி (ஆ) உடற்கூறியல்
(இ) ஹிஸ்டோலஜி (ஈ) உடலியல்

The study of the structure of human body parts is called _____

- (a) Cytology (b) Anatomy
(c) Histology (d) Physiology

35. 'ஆசானா' என்ற வார்த்தை _____
வார்த்தையிலிருந்து பெறப்பட்டது.

- (அ) சமஸ்கிருதம் (ஆ) லத்தின்
(இ) ஆங்கிலம் (ஈ) உருது

The term asana is derived from the

- (a) Sanskrit (b) Latin
(c) English (d) Urdu

36. தயார் ஆகுதல் ————— அதிகரிக்கிறது.
(அ) சுழற்சி (ஆ) வெப்பநிலை
(இ) தசைக்குரல் (ஈ) இவை அனைத்தும்

Warming up increases —————

- (a) Circulation (b) Temperature
(c) Muscle tone (d) All of these

37. கபலாபாதி நடைமுறையின் முக்கிய சிகிச்சை நன்மைகள் என்ன?

- (அ) நுரையீரலை சுத்தப்படுத்தும்
(ஆ) இதயத்தை சுத்தப்படுத்தும்
(இ) மூளையை சுத்தப்படுத்தும்
(ஈ) சிறுநீரகத்தை சுத்தப்படுத்தும்

What is the main therapeutic benefit of Kapalabhati practice?

- (a) Cleanse the lungs (b) Cleanse the heart
(c) Cleanse the brain (d) Cleanse the kidney

38. ஐ.நா. பொதுச் சபை ஜூன் 21ஐ சர்வதேச யோகா தினமாக எப்போது அறிவித்தது?

- (அ) 21 ஜூன் 2014
(ஆ) 11 டிசம்பர் 2014
(இ) 12 டிசம்பர் 2014
(ஈ) 11 ஜூன் 2014

When did the UN general assembly announce
21st June as the international yoga day?

- (a) 21st June 2014 (b) 11th Dec 2014
(c) 12th Dec 2014 (d) 11th June 2014

39. தலைமை சுரப்பி என்றழைக்கப்படும் நாளமில்லா சுரப்பி
எது?

- (அ) கணையம் (ஆ) பிட்யூட்டரி
(இ) அட்ரீனல் (ஈ) பினியல்

Which endocrine gland is master gland in our
body?

- (a) Pancreas (b) Pituitary
(c) Adrenal (d) Pineal

40. புஜங்கசனா மற்றும் சலபாசனா ஆகியவற்றின் அற்புதமான
கலவை எது?

- (அ) சர்பசனா (ஆ) தனுரசனா
(இ) ஹலசனா (ஈ) சக்ராசனா

Which posture makes a wonderful combination of
Bhujangasana and Salabhasana?

- (a) Sarpasana (b) Dhanurasana
(c) Halasana (d) Chakrasana

41. யோகாவின் கூறுகளைப் பற்றி எந்த வேதம் குறிப்பிடுகிறது?

- (அ) அதர் வேதம் (ஆ) ரிக் வேதா
(இ) சாம் வேதம் (ஈ) யஜுர் வேதம்

Which veda mentions about the elements of yoga?

- (a) Athar veda (b) Rig veda
(c) Sam veda (d) Yajur veda

42. 'ஹத்தியோக பிரதிபிகா' தொகுத்தவர் யார்?

- (அ) பதஞ்சலி
(ஆ) கிரந்தா
(இ) ஸ்வத்மராம
(ஈ) மேற்கூறிய எதுவும் இல்லை

Who compiled 'Hathayoga pradipika'?

- (a) Patanjali (b) Gheranda
(c) Swatmarama (d) None of the above

43. அமெரிக்காவின் சிகாகோவில் நடந்த ஒரு மத நாட்டில் மேற்கத்திய உலகிற்கு யோகாவை முதன் முதலில் அறிமுகப்படுத்தியவர் யார்?

- (அ) சுவாமி விவேகானந்தர்
(ஆ) நரேந்திர மோடி
(இ) மகர்ஷி பதஞ்சலி
(ஈ) பாபா ராமதேவா

Who had introduced yoga first time to the western world in a religion conference Chicago, America?

- (a) Swami Vivekananda
- (b) Narendra Modi
- (c) Maharshi Patanjali
- (d) Baba Ramadeva

44. யோகாவின் தந்தை என்று அழைக்கப்படுபவர் யார்?

- (அ) பதஞ்சலி
- (ஆ) சிவா
- (இ) பிரம்மா
- (ஈ) திருமலை கிருஷ்ணமாச்சார்யா

Who is known as father of Yoga?

- (a) Patanjali
- (b) Shiva
- (c) Brahma
- (d) Tirumalai Krishnamacharya

45. யோகாவை “எட்டு பாதையாக” பிரித்து நடைமுறைப்படுத்தியது யார்?

- (அ) பதஞ்சலி
- (ஆ) B.K.S. ஐயங்கார்
- (இ) அகத்தியர்
- (ஈ) சிவானந்தா

Who organized the practice of yoga into an “eight limbed path”?

- (a) Patanjali (b) B.K.S. Iyengar
(c) Agathiyar (d) Sivananda

46. உணர்ச்சிகரமான பொருட்களிலிருந்து உணர்வுகளை வெளியேறுவது

- (அ) தரனா (ஆ) தியானா
(இ) பிரத்யஹாரா (ஈ) சமாதி

Withdrawal of senses from the sensory objects is

- (a) Dharana (b) Dhyana
(c) Pratyahara (d) Samadhi

47. யோகா இதன் ஒற்றுமையைக் கொண்டிருக்காது

- (அ) மனமும் மற்றும் உடலும்
(ஆ) எண்ணங்களும் மற்றும் செயல்களும்
(இ) மனிதனும் மற்றும் இயற்கையும்
(ஈ) எண்ணங்களும் மற்றும் கனவுகளும்

Yoga does not embody unity of

- (a) Mind and body
(b) Thoughts and actions
(c) Man and nature
(d) Thoughts and dreams

48. யோகா என்பது?

(அ) வலிமை

(ஆ) மன ஒருநிலை

(இ) நெகிழ்வான உடல்

(ஈ) இவை அனைத்தும்

Yoga is a discipline for

(a) Strength

(b) An objective frame of mind

(c) Flexible body

(d) All of the above

49. திரிகொனாசனா _____ தோற்றம் போல
தோன்றுகிறது.

(அ) முக்கோணம்(ஆ) மரம்

(இ) அரை சக்கரம் (ஈ) தாமரை

Trikonasana looks like a _____ posture.

(a) Triangle (b) Tree

(c) Half wheel (d) Lotus

50. உஸ்த்ரா என்பதன் பொருள்

(அ) பசு முகம் (ஆ) ஒட்டகம்

(இ) முயல் (ஈ) பாம்பு

Ustra means _____

(a) Cow face (b) Camel

(c) Rabbit (d) Snake

(6 pages)

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U.G. (CBCS) DEGREE EXAMINATION,
NOVEMBER 2021

First Semester

பகுதி I – தமிழ்

பொதுத் தமிழ் – தாள் – I

(For those who joined in July 2021 onwards)

Time : Three hours

Maximum : 75 marks

பகுதி அ — (10 × 1 = 10 மதிப்பெண்கள்)

சரியான விடையைத் தேர்ந்தெடுத்தெழுதுக.

1. தொழிலாளர் உழைப்புக்கும் சாட்சி
(அ) மரம் (ஆ) தடாகம்
(இ) தாரணி (ஈ) காற்று
2. மக்கட் பண்பில்லாதவரை மரம் என்று சொன்னவர்
(அ) ஒளவை (ஆ) வள்ளுவர்
(இ) பாரதி (ஈ) வைரமுத்து

3. மெய்யெழுத்துக்கள் எத்தனை வகைப்படும்?
(அ) 3 (ஆ) 18
(இ) 30 (ஈ) 216
4. மன்-பொருள் தருக
(அ) இயல்பு (ஆ) குளிர்ச்சி
(இ) அரசன் (ஈ) நிலம்
5. 'தமிழுக்கும் அமுதென்று பேர்' என்று கூறியவர்
(அ) பாரதி (ஆ) பாரதிதாசன்
(இ) கவிமணி (ஈ) நாமக்கல் கவிஞர்
6. யார் கேட்பத் தொல்காப்பியம் அரங்கேற்றப்பட்டது
(அ) மாங்குடி மருதனார்
(ஆ) திருவிற் பாண்டியன்
(இ) பாண்டியன் நெடுஞ்செழியன்
(ஈ) அதங்கோட்டாகான்
7. பல்லுமாமா என்று அலமு அழைக்கும் நபரின் பெயர்
(அ) சண்முகம் பிள்ளை (ஆ) சுப்பிரமணிய பிள்ளை
(இ) சுந்தரம் பிள்ளை (ஈ) சிவானந்த பிள்ளை

8. தற்கொலை சிறுகதையில் நண்பர்கள் இருவரும் சேர்ந்து ஆரம்பித்த கம்பெனி பெயர்
- (அ) ஜகந்நாதன் கம்பெனி
- (ஆ) மகாதேவன் கம்பெனி
- (இ) ஜகதேவன் கம்பெனி
- (ஈ) மகாநாதன் கம்பெனி
9. கீழ்வருவனவற்றுள் புதுக்கவிதையின் பாடுபொருள் எது?
- (அ) தனிமனித உணர்வு
- (ஆ) வாழ்க்கை
- (இ) நிராசை
- (ஈ) இவை அனைத்தும்
10. தமிழ் முதல் நாவல்
- (அ) சாவித்திரி சரித்திரம்
- (ஆ) பிரதாப முதலியார் சரித்திரம்
- (இ) கமலாம்பாள் சரித்திரம்
- (ஈ) பத்மாவதி சரித்திரம்

பகுதி ஆ — (5 × 5 = 25 மதிப்பெண்கள்)

அனைத்து வினாக்களுக்கும் 250 சொற்களுக்கு மிகாமல் விடையளிக்க. வினா (அ) அல்லது (ஆ) தேர்ந்தெடு.

11. (அ) ஒற்றுமையாய் வாழ, கவிஞர் கண்ணதாசன் கூறும் அறிவுரை யாது?
(அல்லது)
(ஆ) மீனவரின் வாழ்க்கையைத் தொழில்பாடல்கள் வழி நின்று விளக்குக.
12. (அ) சுட்டெழுத்துக்கள் எவை? சான்றுடன் விளக்குக.
(அல்லது)
(ஆ) முதல் எழுத்துக்கள் குறித்து எழுதுக.
13. (அ) ஒளவையார் பாடலில் இடம்பெற்றுள்ள பழிகரப்பு அங்கத்தை விளக்குக.
(அல்லது)
(ஆ) தொல்காப்பியனார் குறிப்பிடும் அகத்திணைச் சமுதாயம் பற்றிய கருத்துக்களை எழுதுக.
14. (அ) குறட்டை ஒலி சிறுகதையின் தலைப்புப் பொருத்தத்தை ஆராய்க.
(அல்லது)
(ஆ) பரீட்சையில் தேர்ச்சியடையாத ஐகந்நாதனின் மனநிலை எடுத்துரைத்திடுக.
15. (அ) புதுக்கவிதையின் தோற்றம் குறித்து எழுதுக.

(அல்லது)

(ஆ) நாடகத் துறைக்குத் தொண்டாற்றியவர்கள் பற்றி விளக்குக.

பகுதி இ — (5 × 8 = 40 மதிப்பெண்கள்)

அனைத்து வினாக்களுக்கும் 600 சொற்களுக்கு மிகாமல் விடையளிக்க. வினா (அ) அல்லது (ஆ) தேர்ந்தெடு.

16. (அ) சுவரில் ஓர் இதயம் கவிதை வாயிலாக அப்துல் ரகுமான் கூறும் செய்திகளை ஆய்ந்துரைக்க.

(அல்லது)

(ஆ) ஆண் வார்த்த இலக்கியங்கள் பெண்ணுக்கிழைத்த கொடுமைகளே என்று கவிஞர் செல்வகுமாரி கூறிய கருத்துக்களை எழுதுக.

17. (அ) சார்பெழுத்தின் வகைகளை விளக்குக.

(அல்லது)

(ஆ) வல்லினம் மிகா இடங்களைக் சான்றுடன் எழுதுக.

18. (அ) 'தமிழின்பம் தனி இன்பம்' என்பதை விளக்குக.

(அல்லது)

(ஆ) செல்வத்தின் சிறப்பினை விவரிக்க.

19. (அ) 'ஒரு நாள் கழிந்தது' சிறுகதை உணர்த்தும் கருத்துக்களைப் புலப்படுத்துக.

(அல்லது)

(ஆ) 'வலம்புரிச் சங்கு' சிறுகதை உணர்த்தும் கதைப் பொருளை ஆய்க.

20. (அ) சிறுகதையின் தோற்றமும் வளர்ச்சியும் பற்றிக் கட்டுரை வரைக.

(அல்லது)

(ஆ) தமிழ் நாவல்களின் வகைபாடுகள் குறித்து எழுதுக.

(6 Pages)

Reg. No. :

Code No. : 20761

Sub. Code : C 1 TL 21

U.G. (CBCS) DEGREE EXAMINATION, APRIL 2022

Second Semester

Part I — Tamil

பொதுத்தமிழ் தாள் — I

(For those who joined in July 2021 onwards)

Time : Three hours

Maximum : 75 marks

பகுதி அ — (10 × 1 = 10 மதிப்பெண்கள்)

அனைத்து வினாக்களுக்கும் பொருத்தமான விடையைத் தெரிவு செய்க.

1. கோனேரி வாழும் குருகாய்ப் பிறப்பேனே என்றவர்
(அ) குலசேகராழ்வார் (ஆ) நம்மாழ்வார்
(இ) மதுரகவியாழ்வார் (ஈ) திருப்பாணாழ்வார்
2. சுரை ஆழ ——— மிதப்ப.
(அ) கல் (ஆ) அம்மி
(இ) பாறை (ஈ) இரும்பு

3. படித்தான் என்பது
(அ) பெயர்ச்சொல் (ஆ) வினைத்தொகை
(இ) தெரிநிலைவினை (ஈ) வடசொல்
4. சீவக சிந்தாமணி திருத்தக்கத் தேவரால் இயற்றப்பட்டது - இத்தொடர்
(அ) செய்வினை
(ஆ) தன்வினை
(இ) வியங்கோள் வினை
(ஈ) செயப்பாட்டு வினை
5. ஞாலம் கருதினும் கைகூடும் ——— கருதி இடத்தாற் செயின்.
(அ) செல்வம் (ஆ) அருள்
(இ) காலம் (ஈ) பொருள்
6. 'எங்கும் பாரடா இப்புவி மக்களை' என்ற பாடலை இயற்றியவர்
(அ) பாரதியார் (ஆ) பாரதிதாசன்
(இ) கண்ணதாசன் (ஈ) வண்ணதாசன்
7. பெ. சுந்தரனார் 1880-இல் முதுகலைப் பட்டம் பெற்ற துறை
(அ) தத்துவம் (ஆ) மொழியியல்
(இ) இலக்கணம் (ஈ) அறிவியல்

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8. நூற்றொகை விளக்கத்தின் முதல் பதிப்பு வெளிவந்த ஆண்டு

(அ) 1885 (ஆ) 1888

(இ) 1886 (ஈ) 1887

9. எட்டாம் திருமுறையாம் திருவாசகத்தினை இயற்றியவர்

(அ) அப்பர் (ஆ) சுந்தரர்

(இ) மாணிக்கவாசகர் (ஈ) சம்பந்தர்

10. மூதுரை பாடல்கள் இயற்றியவர்

(அ) சிவப்பிரகாசர் (ஆ) குமரகுருபரர்

(இ) காளமேகப்புவவர் (ஈ) ஒளவையார்

பகுதி ஆ — (5 × 5 = 25 மதிப்பெண்கள்)

அனைத்து வினாக்களுக்கும் 250 சொற்களுக்கு மிகாமல் விடை தருக.

வினா (அ) அல்லது (ஆ) தேர்வு செய்து எழுதுக.

11. (அ) கண்ணபெருமான் திருவருளாக ஆண்டாள் உணர்த்தும் செய்திகள் யாவை?

(அல்லது)

(ஆ) இறைவனிடத்திலே குணங்குடி மஸ்தான் சாகிபு யாது வேண்டுகிறார்?

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12. (அ) பெயர்ச்சொல் என்றால் என்ன? அதன் வகைகள் யாவை?

(அல்லது)

(ஆ) 'இடைச்சொல்' பற்றி விளக்கி வரைக.

13. (அ) 'உனக்குள் நீ' எனும் கட்டுரை உணர்த்தும் மையப் பொருண்மை யாது?

(அல்லது)

(ஆ) இளையோர்க்குக் கட்டுரையாசிரியர் செல்லத்தாய் கூறும் அறிவுரை யாது?

14. (அ) பெ. சுந்தரனார் ஆங்கிலத்தில் எழுதிய ஆய்வுக் கட்டுரைகள் யாவை?

(அல்லது)

(ஆ) பெ. சுந்தரனார் தத்துவப் படிப்பைப் பற்றி எழுதுக.

15. (அ) நம்மாழ்வார் - சிறு குறிப்பு வரைக.

(அல்லது)

(ஆ) களவழி நாற்பது - குறிப்பு தருக.

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[P.T.O]



பகுதி இ — (5 × 8 = 40 மதிப்பெண்கள்)

அனைத்து வினாக்களுக்கும் 600 சொற்களுக்கு மிகாமல் விடை தருக.

வினா (அ) அல்லது (ஆ) தேர்வு செய்து எழுதுக.

16. (அ) குலசேகராழ்வார் திருவேங்கடத்துப் பெருமானிடம் வேண்டுவன யாவை?

(அல்லது)

(ஆ) திருமூலர் உணர்த்திடும் திருமந்திரக் கருத்துகள் - விளக்கு.

17. (அ) வினைச் சொற்களின் வகைகளைச் சான்றுடன் விளக்குக.

(அல்லது)

(ஆ) இடைச் சொல்லின் பொது இலக்கணம் யாது?

18. (அ) நும்பாடப் பகுதியிலுள்ள 'வெற்றி அருகில் நான்' எனும் கட்டுரையை விளக்குக.

(அல்லது)

(ஆ) நும்பாடப் பகுதியிலுள்ள 'படித்தாலே இனிக்கும்' எனும் கட்டுரையை ஆய்க.

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19. (அ) மனோன்மணியம் நாடகச் சிறப்பியல்புகளை விவரிக்க.

(அல்லது)

(ஆ) மனோன்மணியம் நாடகத்தில் சுந்தர முனிவர் பண்பு நலன்களை விவரிக்க.

20. (அ) பன்னிரு திருமுறைகளின் சிறப்பியல்புகள் யாவை?

(அல்லது)

(ஆ) சிறுபஞ்சமூலம், ஏலாதி, திரிகடுகம் இவற்றின் அமைப்பும் சிறப்பும் குறித்து எழுதுக.

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Reg. No. :

Code No. : 14055

Sub. Code : A 2EN 11/
C 2EN 11

U.G. (CBCS) DEGREE EXAMINATION,
NOVEMBER 2021.

First Semester

Part II — English

COMMUNICATIVE ENGLISH — I

(For those who joined in July 2020 onwards)

Time : Three hours

Maximum : 75 marks

PART A — (10 × 1 = 10 marks)

Answer ALL questions.

Choose the correct answers :

1. _____ is a naming word.
(a) Noun (b) Verb
(c) Adjective (d) Adverb

2. “Faithful” is an adjective of _____
(a) quality (b) quantity
(c) number (d) possession

3. Skimming means gathering information in the _____ possible time.
- (a) longest (b) fast
(c) shortest (d) maximum
4. Jyotsna and her brothers _____ at school.
- (a) are (b) is
(c) be (d) has
5. A form of verb which ends with -ing and has the force of a noun and verb is called _____
- (a) Pronoun (b) Infinitive
(c) Gerund (d) Adverb
6. Would you mind _____ me the salt.
- (a) pass (b) to pass
(c) passing (d) passed
7. When we ask for someone's opinion we should be _____ in our words.
- (a) Polite (b) Scientific
(c) Boring (d) Irritating
8. The relative adjectives to the verb sit _____
- (a) upright (b) good
(c) fast (d) indoor

the shape and proportion of larger trees. The trees often have small leaves and small fruit. The trees have an old and wind-swept appearance, as though they had grown in the outdoors.

12. (a) Fill in the blanks with a verb in agreement with its subject.
- (i) The price of fruits ————— risen.
 - (ii) One of those children ————— stood first in the competition.
 - (iii) Either my father or my mother ————— coming to the meeting.
 - (iv) The ebb and flow of tides ————— influenced by the moon.
 - (v) Bread and butter ————— wholesome food.

Or

- (b) Write the full form of the following are used in e-learning.
- (i) HTTP
 - (ii) CC
 - (iii) WWW
 - (iv) ISP
 - (v) URL.

13. (a) Complete the sentences with correct form of gerunds and infinitives.
- (i) Renu suggested ————— (walk) to the zoo.
 - (ii) Rithika decided ————— (study) well.
 - (iii) We hope ————— (visit) Agra in May.
 - (iv) Some girls dislike ————— (swim).
 - (v) It is better ————— (walk) early in the morning.

Or

- (b) Write any five instructions that are given by a principal to the first year undergraduate students.

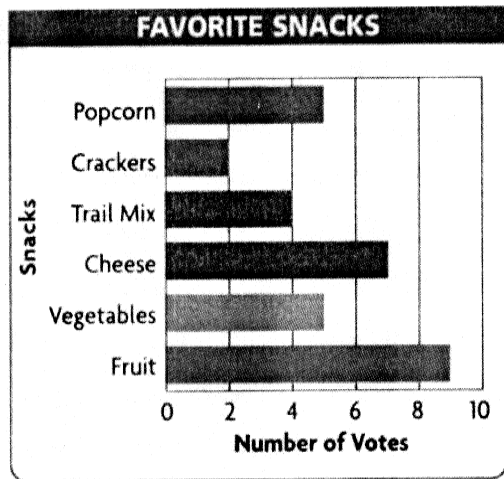
14. (a) Write a conversation between Shanu and Dhia on the topic “Should children be taught only in their mother-tongue”.

Or

- (b) Rewrite the sentences as directed.
- (i) I write a letter. (change into past tense)
 - (ii) Tina is playing tennis. (change into future continuous)
 - (iii) You will be leaving Agra. (change into present continuous)

- (iv) They will have written a letter (identify the tense used)
- (v) I have been traveling in cycle. (change into future perfect continuous tense)

15. (a) Read the bar chart and answer the following questions.



- (i) What is the bar chart all about?
- (ii) Which is the most popular snack?
- (iii) The least favourite snack is _____.
- (iv) Trail mix received _____ votes.
- (v) Which item received 7 votes?

Or

(b) Change the following sentence to passive voice.

(i) Why did you follow the rules?

(ii) I helped the boy.

(iii) Somebody broke the window.

(iv) Marconi invented the radio.

(v) Risha has paid the bill.

PART C — (5 × 8 = 40 marks)

Answer ALL questions, choosing either (a) or (b)
Answer should not exceed 600 words.

16. (a) Write an article on global warming.

Or

(b) Rewrite the sentences as instructed in the brackets.

(i) Cow is a useful animal. (change into plural)

(ii) My father-in-law is a lawyer. (use feminine gender)

(iii) Chef is a person whose profession is cooking. (identify the noun)

(iv) Sun is shining bright. (identify the noun and its type)

(v) The plural form of “information” is ——

- (vi) The two brothers scolded each other.
(identify the type of pronoun used)
- (vii) “The” is used with _____ adjectives.
- (viii) This is Shreya’s book. (identify the type
of case used)

17. (a) (i) Identify the intonation in the sentences.
- (1) She is a wonderful dancer, isn’t she?
 - (2) Do you like your physics teacher?
 - (3) Unless he insists, I’m not going to
the function.
 - (4) Nice to meet you.
- (ii) Frame four sentences using the following
phrases.
- (1) Could you tell me _____
 - (2) I’d like to know _____
 - (3) Do you have any idea _____
 - (4) How long will you _____

Or

- (b) Write a paragraph on the following topics.
- (i) My ambition
 - (ii) All that glitters are not gold.

18. (a) Frame sentences using the following words.
- (i) Unless
 - (ii) Nonetheless
 - (iii) Likewise
 - (iv) Also
 - (v) Moreover
 - (vi) Unlike
 - (vii) Besides
 - (viii) In spite of.

Or

- (b) Write a brief editorial on the merits and demerits of the Online classroom.

19. (a) Read the following and make notes.

Joanne Kathleen Rowling (born July 31, 1965), commonly known as J.K. Rowling, is a British fiction writer. Rowling is most famous for being the author of the Harry Potter fantasy series. Rowling's books have gained international attention and have won multiple awards. In February 2004, Forbes magazine estimated her fortune as 576 million U.S. dollars by writing books. Rowling is also the wealthiest woman in the United Kingdom, well ahead of even Queen Elizabeth II.

She was born in Chipping Sodbury, South Gloucestershire. Her publisher, Bloomsbury,

Wanted to use initials on the cover of the Harry Potter books but Rowling chose to adopt her grandmother's middle name, Kathleen.

The Harry Potter series is in eight volumes. They are : Harry Potter and the Sorcerer's Stone, Harry Potter and the Chamber of secrets, Harry Potter and the Prisoner of Azkaban, Harry Potter and the Goblet of fire, Harry potter and the order of the phoenix, Harry Potter and the Half-blood prince, Harry Potter and the Deathly Hallows and Harry Potter and the cursed child.

The novels chronicle the lives of a young wizard, Harry Potter, and his friends Hermione Granger and Ron Weasley, all of whom are students at Hogwarts school of witchcraft and wizardry. The main story arc concerns Harry's struggle against Lord voldemort, a dark wizard who intends to become immortal, overthrow the wizard governing body known as the ministry of magic and subjugate all wizards and Muggles (non-magical people).

Or

- (b) Fill in the blanks with already, yet, since or for.
- (i) The bus has _____ left.
 - (ii) We have been here _____ an hour.
 - (iii) I haven't had time to do it _____ last Monday.

- (iv) We have _____ been to Paris.
- (v) Haven't they arrived _____?
- (vi) Samson has _____ bought chairs for his hall.
- (vii) Sushan lived in the street _____ a long time.
- (viii) We haven't bought a new one _____ ages.

20. (a) Change the following into active voice.
- (i) A poem was being written by Dylan Thomas.
 - (ii) The bridge was blown up by the terrorists.
 - (iii) The thief was caught by the police.
 - (iv) The house was being built by the masons.
 - (v) The book has not been read by them.
 - (vi) A special dosa has been eaten by me.
 - (vii) Five miles have been cycled by us.
 - (viii) His empty revolver was flung by him.

Or

- (b) Compare and contrast online teaching and real-time classroom teaching.

(8 Pages)

Reg. No. :

Code No. : 20672 Sub. Code : A 2 EN 21/
C 2 EN 21

U.G. (CBCS) DEGREE EXAMINATION, APRIL 2022

Second Semester

Part II — English — Core

COMMUNICATIVE ENGLISH — II

(For those who joined in July 2020 onwards)

Time : Three hours

Maximum : 75 marks

PART A — (10 × 1 = 10 marks)

Answer ALL questions.

Choose the correct answer :

1. Sentences that follow a topic sentence are called _____
- (a) topic sentences
 - (b) illogical sentences
 - (c) supporting sentences
 - (d) proverbial sentences

2. Synonym of 'to startle' is _____
- (a) surprise (b) terrify
 - (c) upset (d) starry
3. Which one of the following is not a type of speech?
- (a) Memorized speech
 - (b) Manuscript speech
 - (c) Extemporaneous speech
 - (d) Prompted speech
4. An opinion is considered as _____
- (a) thought or feeling (b) judgement
 - (c) point of view (d) all the above
5. A man who owns a shop that sells medicine is called
- (a) a physician (b) a patient
 - (c) a pharmacist (d) a compounder
6. The teacher gave the class a test. "the class" is
- (a) Subject (b) Indirect object
 - (c) Direct object (d) Linking verb



7. Many _____ species can be found in African and Amazonian forests.

- (a) imperiled (b) unlucky
(c) risky (d) endangered

8. Sentence that asks a question is _____

- (a) Assertive (b) Imperative
(c) Interrogative (d) Exclamatory

9. What is collocation?

- (a) Synonym
(b) Antonym
(c) Words often go together
(d) Words in opposition

10. I had to walk six flights of stairs because the lift was out of _____

- (a) order (b) service
(c) work (d) control

PART B — (5 × 5 = 25 marks)

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

Descriptive questions should be written in 250 words.

11. (a) Write a paragraph on the proverb "A rolling stone gathers no moss".

Or

(b) Write a conversation between a teacher and a student regarding the merits and demerits of online classes.

12. (a) What are the characteristics of a good speech?

Or

(b) Fill in the blanks with suitable conjunction.

- (i) Is shane playing _____ studying?
(ii) _____ he was poor, he came forward to help the poor.
(iii) Can you buy for me pens, pencils _____ note books?
(iv) They reached late _____ their train was delayed.
(v) Will you wait _____ I return?



13. (a) Write some tips to make a good powerpoint presentation.

Or

(b) Explain the one word phrases.

- (i) plagiarise
- (ii) chef
- (iii) foeticide
- (iv) ornithologist
- (v) omnipotent.

14. (a) Fill in the blanks with responses and instruction given in the brackets.

- (i) Robinhood lived in Sherwood in a _____ deep in the woods. [neutral connotation] [shack / cabin/hut]
- (ii) We stopped for lunch at _____ in Bangalore. [negative] [a small hotel / a cafe / a restaurant]
- (iii) My _____ camera has finally broken. [positive] [dilapidated / venerable / old]

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(iv) The teacher was mildly intimidated by Shelin's _____ behaviour. [positive] [bossy / confident / assertive]

(v) Porridge is a _____ meal [neutral] [inexpensive / thrifty / cheap]

Or

(b) Use imperatives to express how to make a cup of lemon juice. (minimum 5 imperatives)

15. (a) Write a short note on the kinds of adverb clauses.

Or

(b) List any five commonly used collections and give examples.

PART C — (5 × 8 = 40 marks)

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

The answer should not exceed 600 words.

16. (a) Answer the following questions using a time, day, month or year along with a preposition.

- (i) When did you first join the college?
- (ii) What time do you eat lunch?
- (iii) When do you meet your friend?
- (iv) What days don't you go to college?

Page 6 Code No. : 20672



- (v) When do you leave for college?
- (vi) When do you have your holidays?
- (vii) When is the slowest time of year for you?
- (viii) When did you go to the college lately?

Or

- (b) Write a conversation between a parent and a school teacher regarding the merits and demerits of the online classes.
17. (a) What is a speech? Write in detail about the characteristics of a good speech and the steps to prepare a speech on your own.

Or

- (b) Write two sentences each using interjections to express.
 - (i) silence
 - (ii) admiration
 - (iii) surprise
 - (iv) dislike.
18. (a) Write an email of complaint to an online clothing company regarding an error in the size of a dress ordered and paid for.

Or

Page 7 **Code No. : 20672**

- (b) Write two sentences each marking the subject, verb, object.

- (i) SVO
- (ii) SVC
- (iii) SVIDO
- (iv) SVAC.

19. (a) Draft a written text for the brochure of a product of your choice.

Or

- (b) Write a passage of your choice including

- (i) Assertive
- (ii) Imperative
- (iii) Interrogative
- (iv) Exclamatory

sentences and also use short dialogues with speech marks.

20. (a) Write a letter to an editor of a newspaper for the post of a sports reporter along with an effective resume.

Or

- (b) Write elaborately on the types of clauses with examples.

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Code No. : 20672



Reg. No. :

**Code No. : 20270 E Sub. Code : JACA 11/
SACA 11/AACA 11/
CACAA11**

**B.C.A. (CBCS) DEGREE EXAMINATION,
NOVEMBER 2021**

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 answers :

1. The binary equivalent of decimal number 15 is
(a) 1101 (b) 1011
(c) 1111 (d) 1001

2. How many bits are byte
(a) 4 (b) 8
(c) 16 (d) 32

3. For n binary variables we can obtain _____ minterms.
(a) n (b) 2^n
(c) $2*n$ (d) n^2
4. A product of sums is a Booleana expression contains _____ terms.
(a) OR (b) AND
(c) not (d) sum
5. Combinational circuit has _____ an m outputs.
(a) n (b) m
(c) 2^n (d) $2*n$
6. A combinational circuit that performs the addition of two bits is called _____ adder.
(a) two (b) half
(c) full (d) binary
7. A _____ is a digital circuit that performs the inverse operation.
(a) encoder (b) decoder
(c) multiplexer (d) demultiplexer
8. An encode has n input lines 2^n input lines and _____ output lines.
(a) n (b) m
(c) 2^n (d) $2*n$
9. How many types of memory is available?
(a) 2 (b) 3
(c) 4 (d) 5

10. Which of the following is volatile memory?
(a) RAM (b) ROM
(c) Secondary storage (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 about 1's complement and 2's complement numbers.
Or
(b) Explain any five Boolean functions.
12. (a) Explain five variable map.
Or
(b) Describe any three logic gates.
13. (a) Describe combinational circuits.
Or
(b) Describe binary adder.
14. (a) Write short notes on Flip-flop.
Or
(b) Describe sequential circuits.
15. (a) Write a note on binary counter.
Or
(b) Explain memory unit with neat diagram.

PART C — (5 × 8 = 40 marks)

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

Each answer should not exceed 600 words.

16. (a) Explain various logic gates.

Or

- (b) Explain the conversion of octal number to decimal and hexa decimal.

17. (a) Explain four variable map.

Or

- (b) Simplify the following Boolean function using sum-of product method $F(A,B,C,D) = (0, 1, 2, 5, 8, 9, 10)$.

18. (a) Explain subtractor.

Or

- (b) Describe binary multiplier.

19. (a) Explain decoder.

Or

- (b) Describe storage element latches.

20. (a) Describe memory decoding.

Or

- (b) Explain error detection and correction.

(7 pages)

Reg. No. :

Code No. : 30271 E Sub. Code : JACA 21/
SACA 21/AACA 21/
CACCA 21

B.C.A. (CBCS) DEGREE EXAMINATION,
APRIL 2022

Second Semester

Computer Application – Allied

MATHEMATICAL FOUNDATION FOR COMPUTER
SCIENCE

(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. Two sets A and B are mutually exclusive if
- (a) $A \cup B = \text{null}$
 - (b) $A - B = \text{null}$
 - (c) $A \cap B = \text{null}$
 - (d) $B - A = \text{null}$.

2. The power set of a set containing ' n ' elements has _____ elements.

- (a) n^2
- (b) 2^n
- (c) n
- (d) $2n$

3. The other name for one-one function is

- (a) surjective
- (b) bijective
- (c) injective
- (d) mapping.

4. A function defined on a set which maps every element to itself is called _____ function.

- (a) inverse
- (b) composite
- (c) identity
- (d) bijective.

5. The truth value of $p \vee q$ is false only if _____

- (a) p is false
- (b) q is false
- (c) both p and q are false
- (d) both p and q are true.

6. $P \vee (\neg P \wedge Q) \Leftrightarrow$

- (a) $P \wedge Q$
- (b) $P \vee Q$
- (c) both (a) and (b)
- (d) none.

Page 2 Code No. : 30271 E



7. A vertex having no edge incident on it is called _____
- (a) isolated vertex (b) pendant vertex
(c) end vertex (d) null.
8. The degree of every vertex in a complete graph of n vertices is _____
- (a) n (b) $n-1$
(c) 2 (d) 3
9. In a graph G , every _____ contains a path.
- (a) vertex (b) walk
(c) node (d) loop.
10. A tree is a connected _____ graph.
- (a) cyclic (b) acyclic
(c) euler (d) complete.

PART B — (5 × 5 = 25 marks)

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

Each answer should not exceed 250 words.

11. (a) Prove that $A \cup B = B$ iff $A \subseteq B$.
- Or
- (b) Prove that $A \cap B = \phi$ iff $A - B = A$.

Page 3 Code No. : 30271 E

12. (a) Show that $f: R \rightarrow R$ defined $f(x) = 3x$ is a bijection. Find f^{-1} .

Or

- (b) Show that, if $F: X \rightarrow Y$ and $g: Y \rightarrow Z$ are bijections, then $(g \circ f)^{-1} = f^{-1} \circ g^{-1}$.
13. (a) Construct the truth table for $Q \wedge (P \rightarrow Q) \rightarrow P$.

Or

- (b) Prove that $Q \rightarrow P \Leftrightarrow \neg P \rightarrow \neg Q$. Using truth table.
14. (a) Define (i) graph (ii) subgroups.

Or

- (b) Let G be a K -regular bigraph with bipartition V_1 and V_2 and $b > 0$. Show that $|V_1| = |V_2|$.
15. (a) Prove that in a graph G , any $u-v$ walk contains a $u-v$ path.

Or

- (b) Prove that the number of vertices n in a binary tree is always odd.

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[P.T.O.]



PART C — (5 × 8 = 40 marks)

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

Each answer should not exceed 600 words.

16. (a) For any finite set A and B prove that

$$|A \cup B| = |A| + |B| - |A \cap B|.$$

Or

- (b) In a group of 60 girls, 25 play badminton, 20 play table tennis, and 30 play volley ball. 12 play badminton and table tennis, 9 play table tennis and volley ball. 13 play volley ball and badminton. 5 play all the three games. Find how many of them play

- (i) Name of the games
- (ii) Only Volleyball
- (iii) Only badminton.

17. (a) Show that $f: R \rightarrow R$ defined by $f(x) = 7x - 1$ is a bijection and find its inverse. Compute $f^{-1} \circ f$ and $f \circ f^{-1}$.

Or

- (b) Prove that if $f: X \rightarrow Y$ is bijection, then $f^{-1} \circ Y \rightarrow X$ is also bijection and $f^{-1} \circ f = i_x$ and $f \circ f^{-1} = i_y$.

Page 5 Code No. : 30271 E

18. (a) Show that

$$P \rightarrow (Q - R) \Leftrightarrow P \rightarrow (\neg Q \vee R) \Leftrightarrow (P \wedge Q) \rightarrow R.$$

Using truth table.

Or

- (b) Find the principal disjunctive normal form for the formula

$$(P \rightarrow Q \vee R) \wedge (\neg Q) \wedge (\neg R) \wedge Q \text{ using truth table.}$$

19. (a) The maximum number of lines among all ' P ' point graphs with no triangle is $(P^2/4)$. Prove it.

Or

- (b) Define the following and give example for each :

- (i) Simple graph
- (ii) Complete graph
- (iii) Pseudo graph
- (iv) Weighted graph.

Page 6 Code No. : 30271 E



20. (a) For every tree $T = (V, E)$ prove the following properties :

(i) There is a unique path between every pair of vertices.

(ii) Tree with n vertices has $n - 1$ edges.

Or

(b) For a binary tree, prove the following :

(i) The no. of vertices n in a binary tree is always odd.

(ii) The no. of pendant vertices in a binary tree is $\frac{(n+1)}{2}$.



(6 pages)

Reg. No. :

Code No. : 12436 E Sub. Code : CEVS 11

U.G. (CBCS) DEGREE EXAMINATION,
NOVEMBER 2021.

First Semester

Part — IV

ENVIRONMENTAL STUDIES

(For those who joined in July 2021 onwards)

Time : Three hours

Maximum : 75 marks

PART A — (10 × 1 = 10 marks)

Answer ALL questions.

Choose the correct answer.

1. Ecosystem may be defined as _____
 - (a) A species along with environment
 - (b) Plants found in water
 - (c) Plants found on land
 - (d) Call plants and animals species along with environment

2. The pyramid of energy is always upright” states that _____
- (a) The energy conversion efficiency of herbivores is better than carnivores
 - (b) The energy conversion efficiency of carnivores is better than herbivores
 - (c) Producers have the lowest energy conversion efficiency
 - (d) Energy conversion efficiency is the same in all trophic levels
3. Soil erosion can be prevented by _____
- (a) Deforestation
 - (b) Afforestation
 - (c) Overgrazing
 - (d) Removal of vegetation
4. Which one represents regulative function of forests?
- (a) Production of wood
 - (b) Conservation of soil and water
 - (c) Production of essential oils
 - (d) Storage and release of gases

5. _____ is one of the most prevalent hotspots of biodiversity in India
- (a) Himalayas
 - (b) Western Ghats
 - (c) Ganges
 - (d) None of the above
6. _____ is the basic unit of classification and a taxonomic rank
- (a) Species
 - (b) Genus
 - (c) Class
 - (d) Order
7. A substance, which causes pollution, is known as which of the following?
- (a) Pollutant
 - (b) Carcinogen
 - (c) Polluting element
 - (d) Irritant
8. Identify the correct order of the different regions of the atmosphere.
- (a) Stratosphere<mesosphere<troposphere
<thermospher<exosphere
 - (b) Troposphere<mesosphere<stratosphere
<exosphere<thermosphere
 - (c) Troposphere<stratosphere<mesosphere
<thermosphere<exosphere
 - (d) Exosphere>mesosphere>thermosphere
>stratosphere>troposphere

9. Which one of the following cause global warming?
(a) Carbon dioxide (b) Oxygen
(c) Nitrogen (d) Hydrogen
10. When was the Indian Board for Wildlife constituted?
(a) 1952 (b) 1950
(c) 1949 (d) 1948

PART B — (5 × 5 = 25 marks)

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

Answer should not exceed 250 words.

11. (a) Define natural resources and its scope and importance?
Or
(b) Write down the role of an individual in conservation of natural resources.
12. (a) Draw the energy flow diagram in the ecosystem?
Or
(b) Write a short note a Grassland ecosystem?

13. (a) Explain the values of biodiversity?
Or
(b) Write a short notes on conservation of biodiversity in India?
14. (a) Explain about Air pollution and its effects.
Or
(b) What is flood and its causes?
15. (a) Describe in detail about Global warming.
Or
(b) What is air pollution? Explain about prevention and control act.

PART C — (5 × 8 = 40 marks)

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

Answer should not exceed 600 words.

16. (a) Give an account of the effects of timber extraction, mining dams on forests and tribal people.
Or
(b) Describe in detail about equitable use of resources for sustainable lifestyle.

17. (a) Write short notes on :
- (i) Ecological pyramids
 - (ii) Food chain
- Or
- (b) Explain in detailed about Forest ecosystem.
18. (a) Write about Biogeographic classification of India.
- Or
- (b) Briefly describe the Endangered and endemic species of India.
19. (a) Explain about water pollution? Explain its causes, effect and control measures.
- Or
- (b) Describe solid waste management and its types.
20. (a) What is wasteland reclamation? Write down its advantage and disadvantages.
- Or
- (b) Discuss about Population explosion?

(6 Pages)

Reg. No. :

**Code No. : 20412 E Sub. Code : SMCA 11/
AMCA 11/CMCA11**

B.C.A. (CBCS) DEGREE EXAMINATION,
NOVEMBER 2021.

First Semester

Computer Application — Core

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 answers :

1. All the keywords in C are in _____
 - (a) Lowercase letter
 - (b) Uppercase letters
 - (c) Camel case letters
 - (d) None of the mentioned

2. Which of the following is true for variable in C?
- (a) They can contain alpha numeric character
 - (b) It is not an error to declare
 - (c) Variable names cannot start with a digit
 - (d) Variable can be of any length
3. Which of the following cannot be used as LHS of the expression in for (exp 1; exp 2; exp 3)?
- (a) Variable
 - (b) Function
 - (c) Typedet
 - (d) Macros
4. What is the output of Cprogram?

```
int main()  
{  
    int K;  
    for (K = 1; K <=5; K++);  
    {  
        printf("%d", K);  
    } return o;  
}
```

- (a) 12345
- (b) 1234
- (c) 6
- (d) 5

5. How do you initialize an array in C?
- (a) `intarr[3] = (1, 2, 3);`
 - (b) `intarr(3) = {1, 2, 3};`
 - (c) `int arr [3] = {1, 2, 3};`
 - (d) `intarr(3) = (1, 2, 3);`
6. If the two strings are identical, then `strcmp()` function returns _____
- (a) -1
 - (b) 1
 - (c) 0
 - (d) yes
7. Any C program _____
- (a) must contain atleast one function
 - (b) need not contain any function
 - (c) needs input data
 - (d) none
8. An array element are always stored in _____ memory locations.
- (a) sequential
 - (b) random
 - (c) sequential and random
 - (d) none

13. (a) Discuss the two dimensional array.

Or

(b) Discuss about reading string from terminal.

14. (a) Explain about no argument and no return values in functions.

Or

(b) What is recursion? Explain it.

15. (a) What is pointer? Explain about array pointer.

Or

(b) Explain about pointer on pointer.

PART C — (5 × 8 = 40 marks)

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

Each answer should not exceed 600 words.

16. (a) Write a program that prints the even number form 1 to 100.

Or

(b) Explain about various types of operators with one example.

17. (a) What are the decision making statement? Explain it briefly.

Or

(b) Discuss about loop operations in C.

18. (a) Write a program for ascending order using array in C.

Or

- (b) Explain about declaring and initializing string variables in C.

19. (a) Briefly explain about category of function in C.

Or

- (b) Write a program for nesting of functions in C.

20. (a) Write a program to illustrate the use of pointers in arithmetic operations.

Or

- (b) Discuss about pointer and character as a string with suitable example.
-

(6 Pages)

Reg. No. :

Code No. : 30509 E **Sub. Code : SMCA 21/
AMCA 21/CMCA 21**

B.C.A. (CBCS) DEGREE EXAMINATION, APRIL 2022

Second Semester

Computer Application — Core

OBJECT ORIENTED PROGRAMMING WITH 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 C++ language is _____ object oriented language.
(a) Pre object oriented
(b) Not object oriented
(c) Semi object oriented/partial object oriented
(d) None of the above

2. Who is the original creator of C++ language?
(a) Dennis Ritchie (b) Ken Thompson
(c) Bjane storngup (d) Berlin Comede

3. What is the output of the below program?

```
int main()  
{  
    int a = 10;  
    int b, c;  
    b = a++;  
    c = a;  
    cout <<a<<b<<c;  
    return 0;  
}
```

- (a) 111011 (b) 111111
(c) 101011 (d) 101010
4. The multiple use of << in one statement is called _____
(a) cascading (b) class
(c) object (d) encapsulation
5. Which function is expanded in line when it is invoked?
(a) friend (b) virtual
(c) member (d) inline

Page 2 **Code No. : 30509 E**



6. One derived class with several base class is called _____ inheritance.
- (a) Single (b) Multiple
(c) Multilevel (d) Hybrid
7. What does the following statement mean? `Int(*fp)`
(`char*`)
- (a) pointer to a pointer
(b) pointer to an array of chars
(c) pointer to function taking argument
(d) function taking a char argument and returning a pointer to int
8. Which keyword can be used in template?
- (a) class (b) typename
(c) both (a) and (b) (d) function
9. Which of the following can be considered as the members that can be inherited but not accessible in any class
- (a) public (b) private
(c) protect (d) both (a) and (b)
10. Which of the following refers to using the existing code instead of rewriting it?
- (a) inheritance (b) polymorphism
(c) abstraction (d) both (a) and (b)

Page 3 Code No. : 30509 E

PART B — (5 × 5 = 25 marks)

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

Each answer should not exceed 250 words.

11. (a) Explain object oriented programming paradigms.
- Or
- (b) Explain with example of scope resolution operator.
12. (a) Explain about default arguments.
- Or
- (b) Through program example discuss about static member function.
13. (a) Write a C++ program to generate fibonacci series using constructor.
- Or
- (b) List out the rules for overloading operators.
14. (a) Discuss hybrid inheritance with example.
- Or
- (b) How do you define operator overloading?

Page 4 Code No. : 30509 E

[P.T.O]



15. (a) Write about C++ stream classes.

Or

(b) Write about the manipulator with arguments.

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 oops concepts in C++.

Or

(b) List and explain various branching and control structures in C++ with example.

17. (a) Discuss on formal and default arguments with example.

Or

(b) What is the need for friend function? Explain with example.

18. (a) Write in detail about type conversion with suitable example.

Or

(b) Write a C++ program to generate fibonacci series using constructors.

Page 5 Code No. : 30509 E

19. (a) Discuss about multilevel inheritance.

Or

(b) What is constructor? Explain the syntactic rules of the virtual base class in C++.

20. (a) Explain the operations on file.

Or

(b) Write a C++ program to merge two files into a single file.

Page 6 Code No. : 30509 E



Reg. No. :

Code No. : 12390

Sub. Code : APPS 11/
CPPS 11

B.Sc. (CBCS) DEGREE EXAMINATION,
NOVEMBER 2021

First Semester

Add-on-Major

PROFESSIONAL ENGLISH FOR PHYSICAL
SCIENCES — I

(For those who joined in July 2020 onwards)

Time : Three hours

Maximum : 75 marks

PART A — (10 × 1 = 10 marks)

Answer ALL questions.

Choose the correct answers :

1. CV Raman won Nobel prize in —————

(a) 1920

(b) 1930

(c) 1940

(d) 1950

2. The vibrational movement of atoms in the solid state is _____
- (a) Crystal dynamics
 - (b) Diffraction
 - (c) Ultrasonic
 - (d) Hypersonic frequency
3. _____ is a branch of science that deals with sounds.
- (a) Acoustics
 - (b) Barometer
 - (c) Rheostat
 - (d) Optics
4. Which among the following do you consider as the most effective reading method to comprehend a text?
- (a) Skimming
 - (b) Scanning
 - (c) Intensive
 - (d) Extensive
5. _____ is an apparatus containing a movable mirror, used to reflect sunlight in a fixed direction.
- (a) Refracting telescope
 - (b) Photo detector
 - (c) Photons
 - (d) Heliostat

6. I am an extremely thin film of soapy water. Who am I?
- (a) Soap bubble (b) Foam
(c) Snow (d) Dish washer
7. When is Pi Day celebrated around the world?
- (a) 14 Feb (b) 14 March
(c) 14 April (d) 15 March
8. Insulation material used to retain the heat of an object
- (a) Iron (b) Bronze
(c) Insulation (d) Rubber
9. _____ is a colourless, odourless and non-toxic gas.
- (a) Neon (b) Nitrogen
(c) Helium (d) Methane
10. _____ is the scientific study of the large scale properties of the universe as a whole.
- (a) Hubble's law (b) Boyle's law
(c) Cosmology (d) Big bang thoery

PART B — (5 × 5 = 25 marks)

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

Answer should not exceed 250 words.

11. (a) Read the passage and answer the questions.

The Internet of Things (IoT) refers to the vast world of interconnected devices with embedded sensors which are capable of providing data, and in some cases, being controlled, across the Internet. Common examples include many home automation devices, like smart thermostats and remotely controllable lighting fixtures, but there are countless others, from traffic sensors to water quality meters to smart electric grid components to tracking manufactured goods and vehicle fleets worldwide. Because of the rapid growth in the IoT space, there are a number of competing standards, tools, projects, policies, frameworks, and organizations hoping to define how connected devices communicate in the modern era.

What are some uses for IoT devices? How you might make use of IoT connected devices depends a bit on whether you're more interested in collecting data or automating actions, and at what scale you are utilizing them.

• Indoor and outdoor lighting and electrical outlets which can be controlled by sensors, timers, and remote applications. • Cameras, motion sensors, automatic locks, and other access control devices which can be integrated into advanced security and monitoring systems. • Water leak sensors, smoke alarms, carbon monoxide sensors, and other devices designed to protect people and property from accidental harm. • Electric car chargers, battery banks, and other devices which can intelligently charge at off-peak hours to save money and reduce peak energy demands. For a government, company, or institution, IoT devices are a little different, and generally focus more on collecting data which can be processed and visualized, often in real-time. Some examples include. • Utility companies are able to more accurately forecast energy and water demands, reducing waste. • Advanced environmental sensors, include water, noise, and air quality monitors, can help understand pollution sources and effects before they negatively impact ecosystem and human health. • Agencies charged with public safety can develop more advanced early warning systems for natural disasters like earthquakes and floods, and have better data with which to provide vital services like fighting fires and providing humanitarian relief. Getting started with creating your own

devices and software for the Internet of Things is surprisingly easy. There are numerous hardware platforms targeted to beginners and hobbyists alike which have large communities behind them, including many which are partially or fully open hardware. Security and privacy are major concerns while using IoT which are currently being addressed by various industries and governments all over the world.

- (i) What is the Internet of things?
- (ii) List some applications of IoT.
- (iii) How can governments make use of IoT?
- (iv) What are the two major concerns while using IoT?
- (v) What would you want to use IoT to make your daily life more comfortable in some way?

Or

- (b) Fill in the blanks with suitable words from the choices given in the bracket.

(Prism, flatter, radiation, light, interactions)

Spectroscopy – is the study of the _____ between _____ and electromagnetic _____ via electron spectroscopy, atomic spectroscopy. Historically, spectroscopy originated through the study of visible _____ dispersed according to its wavelength, by a _____.

12. (a) Read the following passage and draw a flow chart.

Process of making photocopies.

Static electricity enables a photocopier to produce almost instant copies of documents. At the heart of the machine is a metal drum which is given a negative charge at the beginning of the copying cycle. The optical system then projects an image of the document on the drum. The electric charge disappears where light strikes the metal surfaces, so only dark parts of the image remain charged.

Positively charged particles of toner powder are then applied to the drum. The charged parts of the drum attract the dark powder, which is then transferred to a piece of paper. A heater seals the powder to the paper, and a warm copy of the document emerges from the photocopier.

Or

- (b) What is extended definition? List out the steps involved in extended definition.

13. (a) Unscramble the following words.

- (i) Naeoelcepsc
- (ii) Oarcmulule
- (iii) Ecuryfgen
- (iv) Nucserelcfeo
- (v) Mmrocoichtnoa
- (vi) Stenyinti
- (vii) Rutpaere
- (viii) Pcagpsrhoetr
- (ix) Emurcyr
- (x) Ottecpsedohtro.

Or

(b) Locate the ANTONYMS of the following words from the bracket.

(Certainty, Consistent, Creating, Enjoyment, Destructive)

- (i) Displeasure
- (ii) Unimaginative
- (iii) Constructively
- (iv) Inconstant
- (v) Instability.

14. (a) Read the passage and match the following questions.

The “black” part of the black hole is the event horizon. If an object breaches the event horizon and approaches the singularity it will become “spaghettified” – stretched and pulled apart by the black hole’s gravitational forces. Scientists think that in the middle of the black hole is a “singularity”. It’s at this point in the black hole discussion that classical physics principles can no longer be applied (it stops making sense in this context) and quantum mechanics takes over. The theory is that the singularity is an infinitely small point where gravity and density are also infinite. The black hole is packed with all the heavy elements from the star but in a much smaller space. Imagine the mass of a star 10 times the size of our sun compressed into something the size of a city.

Part A

Part B

- | | |
|--|---------------------------------|
| 1. The ‘black’ part of the black hole is | A. It will become spaghettified |
| 2. If an object breaches the event horizon | B. The event horizon |
| 3. In the middle of the black hole | C. In a much smaller space |
| 4. “Spaghettified” | D. Is a singularity |

5. Black hole packed with all the heavy elements and pulled the black gravitational
- E. Stretched apart by hole's forces

Or

- (b) Read the passage and answer the questions given below.

Nicolas Tesla is the inventor of the wireless radio. However, Guglielmo Marconi did design a practical application for this invention. In 1901, he sent the first wireless message across the Atlantic Ocean. It was the Morse Code letter, S. This invention would soon compete with the undersea telegraph cables. In 1900, Reginald Fessenden developed an electrolytic detector which could be used for the transmission of voices. He thought Marconi's vision for wireless communication was too limited. Along with Lee de Forest, he formed other wireless companies. They looked for new ideas to compete with Marconi's wireless transmission of code only. Marconi used the "spark" technology. Fessenden thought that wave technology could be used to transmit voice and music. He wanted to develop wireless telephony. By 1900, he developed a rotary spark transmitter. It could carry a voice for one mile. When sending a voice signal, the audio signal is first placed onto the radio frequency wave and then removed at the

other end. Originally, the sound was not very clear. He thought a cleaner radio wave would make the voice clearer. He then developed a high-speed alternator instead of the rotary spark technology.

Fessenden partnered with a scientist from general electric company to create such an alternator. In December 1906, he could send voice and music several miles. DeForest also made some broadcasts of music and voice in 1907. He then developed a three-element vacuum tube called an audion. A new era for radio began. In 1909, because of wireless communication, 1500 passengers were saved from drowning when the Republic sank. Other ships in the area were notified and provided rescue help. However, when the Titanic struck an ice berg in 1912, the wireless system in use showed fatal flaws. Interruption occurred from other radios which blocked communication with ships which might have come to the rescue of the Titanic. The Wireless Act of 1912 set standards for radio operations. During World War I, all non-governmental radio stations were shut down. The U.S. Navy took over radio. The Radio corporation of America was founded after the war by general electric company. It took over the Marconi wireless telegraph company. In 1920, Westinghouse

corporation of Pittsburgh started a radio station just for entertainment. The first station was KDKA. Hundreds of new stations followed, as well as government regulation and licensing. Since AM radio experienced a lot of atmospheric noise, FM (frequency modulation) radio began. Transistor radios exploded in the 1950's. They became the mobile device for everyone. By 1979, most radio listening was to FM. Satellite-digital radio came along in 2000-2001. Most radio stations today "stream" their programming on the internet. MP3 portable digital devices which store music now are competing with radio music.

- (i) Which of the following was the first radio station in the United States?
 - (1) KDKA (2) KOBG
 - (3) KPAD (4) KPVC

- (ii) Who is considered to be the inventor of wireless radio?
 - (1) Thomas Edison
 - (2) Guglielmo Marconi
 - (3) Nicolas Tesla
 - (4) Reginald Fessenden

- (iii) Who discovered the principle of the vacuum tube?
- (1) Guglielmo Marconi
 - (2) Thomas Edison
 - (3) Nicolas Tesla
 - (4) Reginald Fessenden
- (iv) Which of the following radio companies was founded after WWI?
- (1) American radio company
 - (2) Radio company of America
 - (3) United States radio company
 - (4) Radio corporation of America
- (v) In which of the following cities did the first radio station begin?
- (1) Boston
 - (2) New York
 - (3) Pittsburgh
 - (4) Cleveland
- (vi) When is the world radio day celebrated?
- (1) 14th March
 - (2) 13th February
 - (3) 20th March
 - (4) 13th March

15. (a) Critically reflect your ideas in the form of an essay the advantages and the disadvantages of 5G network technology.

Or

- (b) Read the following passage and answer the questions given below.

It will be surprising to know that this theorem functions as the basic principle of one of the most advanced inventions in human history, the navigation system. Now many countries have their navigation systems. The GPS of the United States America, GLONASS of Russia, Galileo of the European Union, BeiDou of China, QZSS of Japan, and NavIC of India are the operational navigation systems in the world today. These navigation systems guide aircraft, ships and other vehicles accurately to reach their destination. In navigation, the Pythagorean theorem helps to calculate the distance between two points. The satellites orbiting the entire globe transmitting positioning and timing data all through the day. Navigation in three dimensions is the basic function of navigations systems used around the world. Navigation receivers in the aircraft, ships, and ground vehicles supply

data to control systems over radio signals. The GPS of the USA is the most famous navigation system used almost all over the world. It uses a constellation of earth-orbiting satellites to send and receive data. Any navigation system uses signals from three different satellites to calculate the distance by performing triangulation activity. Navigation systems help in precise positioning and movement of objects. An aircraft will use its altitude and its distance from destination to identify the right place to begin a descent to the airport. Navigation systems are used for military purposes in the past but now they are provided to all, hence we can use our smart phone to find out a destination or calculate distance.

- (i) What is a navigation system?
- (ii) What is the name of the navigation system developed by India?
- (iii) How is the navigation system useful for an aircraft?
- (iv) How does the Pythagorean theorem help in navigation?
- (v) How does a navigation system work?

PART C — (5 × 8 = 40 marks)

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

Answer should not exceed 600 words.

16. (a) Read the passage and answer the questions given below.

Hydroxychloroquine is a less toxic derivative of chloroquine and was discovered in 1945 as part of the efforts to lessen the toxic effects of chloroquine. It was approved for use in the US in 1955, and since then has been used for the treatment of a wide variety of diseases including arthritis, Systemic Lupus Erythematosus (SLE) etc.

Hydroxychloroquine (HCQ), is a medication used to prevent and treat malaria. It is also used for the treatment of rheumatoid arthritis, lupus, and porphyria cutaneatarda. HCQ is being studied to prevent and treat coronavirus disease 2019 (COVID-19). High-quality evidence of benefit for such use is lacking, with concerns of potential harm from its side effects.

Hydroxychloroquine is on the World Health Organization's list of essential medicines, which has the most the safest and most effective medicines needed in a health system. In 2017, it was the 128th most commonly prescribed medication in the United States, with more than five million prescriptions. The

speculative use of hydroxychloroquine for COVID-19 threatens its availability for people with established symptoms.

The HCQ story begins in 1638 when the wife of the Viceroy of Peru, Countess Cinchona, acquired malaria while living in the New World. Rather than getting the “approved” therapy – blood-letting, she was treated by an Incan herbalist with the bark of a tree (eventually, named the countess-Cinchona Tree). Her response was dramatic; when the viceroy returned to Spain, he brought with him large supplies of the powder for general use, which at the time was controlled by the Church and was thus called “Jesuit’s Powder”. It took nearly two centuries for the active substance, Quinine, to be isolated from the bark (and was eventually to make a name for itself as a tonic to be added to gin). Over the next century, quinine would become a common component in folk medicines and patent remedies for the treatment of malaria in the southern states of America, as well as for generic malaise. By the 1940s, quinine, or, rather its derivative chloroquine, was recognized for its anti-malarial properties and found use among troops fighting in the Pacific during WW-II. However, it was noted that this compound had significant toxicities. In 1945, a modification of this compound via hydroxylation led to the development of HCQ,

which was found to be less toxic and remains in use, without change, to this day.

Hydroxychloroquine treats rheumatic disorders such as systemic lupus erythematosus, rheumatoid arthritis, and porphyria cutaneatarda, and certain infections such as Q fever and certain types of malaria. It is considered the first-line treatment for systemic lupus erythematosus. Certain types of malaria, resistant strains, and complicated cases require different or additional medication.

The medicine is widely used to treat primary Sjögren syndrome but does not appear to be effective. Hydroxychloroquine is widely used in the treatment of post – Lyme arthritis. It may have both an anti-spirochete activity and an anti-inflammatory activity, similar to the treatment of rheumatoid arthritis.

The most common adverse effects of the medicine are nausea, stomach cramps, and diarrhoea. Other common adverse effects include itching and headache. The most serious adverse effects affect the eye, with dose-related retinopathy as a concern even after hydroxychloroquine use is discontinued. Serious reported neuropsychiatric adverse effects of hydroxychloroquine use include agitation, mania, difficulty in sleeping, hallucinations, psychosis, catatonia, paranoia,

depression, and suicidal thoughts. In rare situations, hydroxychloroquine has been implicated in case of serious skin reactions such as Stevens – Johnson syndrome, toxic epidermal necrolysis, and drug reaction with eosinophilia and systemic symptoms. Reported blood abnormalities with its use include lymphopenia, eosinophilia, and atypical lymphocytosis. Children may be especially vulnerable to developing adverse effects from hydroxychloroquine.

Answer the following questions from the passage.

- (i) List the various uses of hydroxychloroquine given in the passage.
- (ii) Can hydroxychloroquine prevent the severity of Covid-19?
- (iii) Rearrange the given words in the proper order.
 - (i) prevent/treat/and/medication/to/used/a/HCCQ/is/Malaria
 - (ii) had/toxicities/compound/significant/the
 - (iii) additional/malaria/types/certain/of/requires/medication
 - (iv) bark/took/it/centuries/two/the/isolated/the for/from/bark/be/quinine

Or

- (b) Comment on the rocket design and craftsmanship of Tipu Sultan, in comparison with the rocket designs that are being used in the present-day context.
17. (a) Write the extended definitions for the following words.
- (i) Barometer
 - (ii) Flow chart
 - (iii) Gobar gas plant
 - (iv) Microphone.

Or

- (b) Read the following passage and answer the questions below.

Can talking on a mobile phone be hazardous to your health? It is difficult to know for sure. Some research suggests that heavy users of mobile phones are at a greater risk of developing cancerous brain tumors. However, many other studies suggest that there are no links between cancer and mobile phone use. The main problem with current research is that mobile phones have only been popular since the 1990s. As a result, it is impossible to study long-term exposure to mobile phones. This concerns many health professionals who point out that certain cancers can take over twenty years to develop. Another concern

about these studies is that many have been funded by the mobile phone industry or those who benefit from it.

Over five billion people now use mobile phones daily, and many talk for more than an hour a day. Mobile phone antennas are like microwave ovens. While both rely on electromagnetic radiation (EMR), the radio waves in mobile phones are lower in frequency. Microwave ovens have radio wave frequencies that are high enough to cook food, and they are also known to be dangerous to human tissues like those in the brain. The concern is the lower-frequency radio waves that mobile phones rely on may also be dangerous. It seems logical that holding a heat source near your brain for a long period is a potential health hazard.

Some researchers believe that other types of wireless technology may also be dangerous to human health, including cordless phones, wireless gaming consoles, and laptop or tablet computers with wireless connections. They suggest replacing all cordless and wireless devices with wired ones where possible. They also say that many cordless phones can emit dangerous levels of electromagnetic Radiation even when they are not in use. They even suggest keeping electronic devices such as desktop and tablet computers out of the

bedroom, or at least six feet from the head while we're sleeping.

A growing number of health professionals worldwide are recommending that mobile phone users err on the side of caution but this cannot be accepted, until more definitive studies can be conducted. They use the example of tobacco to illustrate the potential risks. Many years ago, people smoked freely and were not concerned about the effects of cigarettes on their health. Today, people know that cigarettes cause lung cancer, though it is still unknown exactly how or why. Some doctors fear that the same thing will happen with mobile phones. IN May 2016, the UK's Independent newspaper reported on research by the US government's National Toxicology Program that showed a slight increase in brain tumors among rats exposed to the type of radio frequencies commonly emitted by mobile phones. This doesn't prove that mobile phones can cause brain tumors in humans, but it does show that it's possible. As a result, many experts now recommend texting or using headsets or speaker phones instead of holding a mobile phone to the ear.

- (i) How does the usage of mobile phones affect our health?
- (ii) In what way does a cordless phone harm our body?

- (iii) What are the dangers caused by the microwave oven to humans?
 - (iv) Why should electronic gadgets be kept out of the bedroom while sleeping?
 - (v) What was the finding of the US government's national toxicology?
18. (a) Modern electronic devices such as mobile phones, TVs, tablets, computer monitors, laptops screens, etc., use a LED display to display their output. Discuss the uses of these devices.

Or

- (b) Read the following except written by Ramanujan. Fill in the blanks in the letter with the words given below.

(University, enclosed, Inexperienced, investigation, convinced, excused, conventional, approximates, published, indicated)

Dear Sir,

I beg to introduce myself to you as a clerk in the Accounts Department of the Port Trust office at Madras on a salary of only £ 20 per annum. I am now about 23 years of age. I have had no ————— education but I have undergone the ordinary school course. After leaving school I have been employing the

spare time at my disposal to work at Mathematics. I have not trodden through the _____ regular course, which is followed in a University course, but I am striking out a new path of myself. I have made a special _____ of divergent series in general and the results I get are termed by the local mathematicians as “startling”.

Very recently I came across a tract published by you styled orders of infinity in page 36 of which I find a statement that no definite expression has been as yet found for the number of prime numbers less than any given number. I have found an expression which very nearly _____ to the real result, the error being negligible. I would request you to go thought the _____ papers.

Being poor, if you are _____ that there is anything of value I would like to have my theorems _____ I have not given the actual investigations nor the expressions that I get but I have _____ the lines on which I proceed. Being _____ I would very highly value any advice you give me. Requesting to be _____ for the trouble I give you.

I remain, Dear Sir,

Yours truly,

S. Ramanujan.

19. (a) Write a paragraph detailing the similarities between biomass and biofuels.

Or

- (b) Write eight sentences about the significance of Newton's theory in physics.

20. (a) Fill in the gaps with the following words.

(Finite, brane, proton, fusing galaxie, large, light, reionization, earth)

The beginning of our universe would have been nice and ————. The cyclic model posits that our universe consists of 11 dimensions, only four of which we can observe (three of space and one of time). Our four-dimensional part of the universe is called a ———— (short for membrane). Just after inflation, the universe was likely filled with hot, dense plasma. But by around 1 microsecond (10 to the minus 6 seconds) or so, it had cooled enough to allow the first ———— and neutrons to form, researchers, think. In the first three minutes after the big bang, these protons and neutrons began together, forming deuterium (also known as heavy hydrogen). Deuterium atoms then joined up with each other, forming helium 4. Over time, stars gravitated together to form

—————, leading to more and more ————— structure in the universe. Planets coalesced around some newly forming stars, including our own sun. And 3.8 billion years ago, life took root on —————. Once the universe's first stars ignited, the ————— they unleashed packed enough punch to once again strip electrons from neutral atoms, a key chapter of the universe called —————.

Or

- (b) Read the passage and answer the questions given below.

In many places on our planet, we experience severe disasters like earthquakes, tsunamis, and cyclones resulting in loss of life, loss of wealth, and in some cases, the destruction of decades of progress made by countries and their valuable cultural heritage. India has earthquake problems periodically in certain regions. The U.S. Japan, Turkey, Iran, and many other countries also suffer due to earthquakes. Earthquakes and tsunamis are sub-terrain phenomena and predicting this from space observations would be a great challenge. Space scientists of multiple nations should work together to use satellite deep

penetration images to predict the earthquake or shock wave propagation. Other possibilities are a precise geodynamic measurement of strain accumulation by satellite to detect pre-slip, and electromagnetic phenomena prior to final rupture. The focus must be on earthquake forecasting with an adequate warning so that people can move to safer areas. Space technology can also be used for forecasting and modeling of volcanic eruptions, landslides, avalanches, flash floods, storm surges, hurricanes, and tornadoes.

(i) Fill in the blanks.

- (1) Earthquakes and tsunamis are _____ phenomena.
- (2) Space scientists should work _____.
- (3) _____ is also used to predict hurricanes.

(ii) Give the synonym form the passage for the following words.

- (1) Picture _____
- (2) Predict _____
- (3) Sufficient _____

(iii) Give the antonym from the passage for the following words.

(1) Single —————

(2) Experience —————

(3) Invaluable —————

(6 Pages)

Reg. No. :

Code No. : 20676

Sub. Code : APPS 21/
CPPS 21

B.Sc. (CBCS) DEGREE EXAMINATION, APRIL 2022

Second Semester

Add on Major

PROFESSIONAL ENGLISH FOR PHYSICAL
SCIENCES — II

(For those who joined in July 2020 onwards)

Time : Three hours

Maximum : 75 marks

PART A — (10 × 1 = 10 marks)

Answer ALL questions.

Choose the correct answer :

1. Peasants refer to
(a) Farmers (b) Scientists
(c) Masons (d) None of the above
2. The distance covered by light in one year is
(a) Photon (b) Light year
(c) Quanta (d) Leap year

3. Locate the word that relate to occur at same time
(a) cross (b) device
(c) synchronize (d) asymptotic
4. _____ is called prince of Mathematicians.
(a) Gauss (b) Einstein
(c) Newton (d) Planck
5. The sequence 1 1 2 3 5 8 13... is
(a) Taylor series (b) Fibonacci series
(c) Euler (d) None
6. EW stands for
(a) Electronic warfare (b) Electronic work
(c) Electro web (d) None
7. Buoyancy is the ability to
(a) run (b) sink
(c) fly (d) float
8. Web page is written in
(a) HTML (b) HTTP
(c) Coding (d) None

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9. Icons are used in poster to improve
(a) designs (b) pattern
(c) figures (d) texts
10. Circulars are
(a) formal (b) informal
(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) Define light year and sundial.
Or
(b) Draw a simple mind map of any science concepts.
12. (a) Imagine you are the owner of fitness tracker production company advertise your product.
Or
(b) Give the synonyms of
(i) Geodesy
(ii) anecdote
(iii) precocity
(iv) cyborg
(v) facilitate

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13. (a) Expand the following SMTP, HTTP, IOT, CLI, REST.

Or

- (b) Write note on fibanocci numbers.

14. (a) Create own sentences with the following :
(i) famous
(ii) awful
(iii) pretty
(iv) artistic
(v) original.

Or

- (b) Discuss the steps for creating your own blog.

15. (a) Prepare a sample minutes of a meeting.

Or

- (b) Discuss the usage of head phones in listening to music.

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[P.T.O]



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 various compounds you come across in daily life.

Or

- (b) Explain relativity as you know

17. (a) Explain AI in education and research.

Or

- (b) Comment on some persuasive techniques in communication.

18. (a) Make some sentences with the following words Emwaves, GPS, Emission, Defence, Radar, Decode.

Or

- (b) Explain ICT based learning.

19. (a) Give information about few acids and bases.

Or

- (b) Explain Webpage, blog, flyers and brochures.

20. (a) Why is power point presentation more interesting than ordinary type of presentation? Explain.

Or

- (b) Explain the concept of using virtual personal assistants.



(6 pages)

Reg. No. :

**Code No. : 12387 E Sub. Code : JCSB 5 A/
SCSB 5 A**

U.G. (CBCS) DEGREE EXAMINATION,
NOVEMBER 2021.

Fifth Semester

Part IV

Common Skill Based Subject — PERSONALITY
DEVELOPMENT

(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. _____ refers to personal traits reflected
through persons behavior.

- (a) Culture (b) Tradition
(c) Personality (d) Habit

2. According to Freud, the psyche of a human being has _____ layers.
- (a) Four (b) Two
(c) Three (d) Five
3. _____ are known as the 'gate ways to knowledge'.
- (a) Brain (b) Eyes
(c) Sense organs (d) Noses
4. Monitoring one's own behavior and activities is called _____.
- (a) attitude (b) self esteem
(c) self image (d) self monitoring
5. _____ is a group of individuals working to achieve a common objective.
- (a) Business trade (b) Organization
(c) Team (d) Company

6. _____ leadership does not take into account the opinion of others.
- (a) Autocratic (b) Democratic
(c) Laissez faire (d) Liberal
7. _____ denotes transfer of messages from one person to another person.
- (a) Channel (b) Communication
(c) Sender (d) Massage
8. Ego belongs to _____.
- (a) Parent (b) Child
(c) Adult (d) Elder
9. _____ interview is accidental.
- (a) Formal (b) Face to face
(c) Informal (d) Telephone
10. _____ is the second important place for the formation of behavior.
- (a) Family (b) Society
(c) School (d) College

PART B — (5 × 5 = 25 marks)

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

Each answer should not exceed 250 words.

11. (a) Write notes about Freud's Psycho Analytic Theory.

Or

- (b) Describe the determinants of personality.

12. (a) Write about perception process.

Or

- (b) Explain the methods to attitude change.

13. (a) Discuss the principles of negotiation.

Or

- (b) What are the types of Teams?

14. (a) Explain the Types of Transactions.

Or

- (b) List out the symptoms of Stress.

15. (a) What are the questions generally asked in interview?

Or

- (b) Describe about Table manners.

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 importance of goal setting.

Or

- (b) Explain the importance of personality development.

17. (a) Summarize the factors determining self-esteem.

Or

- (b) Summarize the techniques of Assertiveness.

18. (a) How to create an effective team? Discuss.

Or

- (b) Write an essay about Conflict Management.

19. (a) What are the barriers in communication?
Explain.

Or

(b) How to develop Emotional Quotient?
Explain.

20. (a) Explain how did you acquire social graces?

Or

(b) List out the types of interview.

(6 pages)

Reg. No. :

Code No. : 30537 E Sub. Code : SECA 6 B

B.C.A (CBCS) DEGREE EXAMINATION, APRIL 2022.

Sixth Semester

COMPUTER APPLICATION

Major Elective – SOFTWARE PROJECT
MANAGEMENT

(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. A step in waterfall model that involves a meeting with the customer to understand the requirements.
 - (a) Requirement Gathering
 - (b) SRS
 - (c) Implementation
 - (d) Customer review

2. The process each manager follows during the life of a project is known as
 - (a) Project Management
 - (b) Manager life cycle
 - (c) Project Management Life Cycle
 - (d) System Life Cycle
3. In the classical chief programmer team approach, the team member responsible for maintaining the detailed design and coding is
 - (a) The chief programmer
 - (b) The programming secretary
 - (c) A specialized function that exist outside 'the team'
 - (d) The individual coder (i.e. programmer)
4. Which one of the following is not a fundamental activity for software processes in software engineering?
 - (a) Software Verification
 - (b) Software Validation
 - (c) Software design and implementation
 - (d) Software evolution

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5. A simple way of looking at the spiral software life-cycle model is as a waterfall model with each phase proceeded by
- (a) Build-and-fix (b) Synchronization
(c) Testing (d) Risk analysis.
6. A _____ is developed using historical cost information that relates some software metric to the project cost.
- (a) Algorithmic cost modeling
(b) Expert judgement
(c) Estimation by analogy
(d) Parkinson's Law
7. There are _____ types of Work Breakdown Structures.
- (a) One (b) Two
(c) Three (d) Four
8. Which of the following is not considered as a risk in project management?
- (a) Specification delays
(b) Product competition
(c) Testing
(d) Staff turnover

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9. Quality planning is the process of developing a quality plan for
- (a) Team (b) Project
(c) Customers (d) Project Manager
10. The software life cycle can be said to consist of a series of phases. The classical model is referred to as the waterfall model. Which phase may be defined as "The concept is explored and refined, and the client's requirements are elicited?"
- (a) Requirements (b) Specification
(c) Implementation (d) Integration

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 reducing software product size.
- Or
- (b) Analyze improving automation through software environments.
12. (a) Explain the different phases of the life cycle phases.

Or

- (b) Discuss about Pragmatic artifacts.

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[P.T.O.]



13. (a) Summarize the planning guidelines.

Or

(b) Give an overview about the cost and schedule estimation process.

14. (a) Explain Management Indicators with suitable example?

Or

(b) Analyze the project environment.

15. (a) Explain about the evolutionary requirements.

Or

(b) Apply the metrics for managing a modern process.

PART C — (5 × 8 = 40 marks)

Answer ALL questions, choosing either (a) or (b)
Each answer should not exceed 600 words.

16. (a) Explain in detail about conventional software management.

Or

(b) Illustrate software economics.

Page 5 Code No. : 30537E

17. (a) Explain the goal of Construction Phase.

Or

(b) Give an overview about the artifact sets.

18. (a) Discuss about conventional work breakdown structure.

Or

(b) Briefly explain about Iteration planning process.

19. (a) Describe about Quality Indicators?

Or

(b) Explain about software metrics.

20. (a) Briefly explain about the modern process transitions.

Or

(b) Explain about software management principles.

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(6 pages)

Reg. No. :

**Code No. : 20254 E Sub. Code : JMCA 51/
SMCA 51**

B.C.A. (CBCS) DEGREE EXAMINATION,
NOVEMBER 2021.

Fifth Semester

Computer Application — Main

SOFTWARE ENGINEERING

(For those who joined in July 2016-2019)

Time : Three hours

Maximum : 75 marks

PART A — (10 × 1 = 10 marks)

Answer ALL questions.

Choose the correct answer :

1. _____ software runs specific hardware devices which are typically sold on the open market.
 - (a) Generic
 - (b) Embedded
 - (c) Utility
 - (d) Data processing

2. A class acts as a container to hold its features and defines an interface that allows only some of them to be seen from outside is said be
- (a) Encapsulation (b) Inheritance
(c) Super class (d) Sub class
3. _____ is a typical sequence of actions that an actor performs in order to complete a given task.
- (a) Test case (b) Use case
(c) Switch case (d) Pattern
4. _____ is an effective way to gather information from a group of people.
- (a) Brainstorming (b) Interview
(c) Observation (d) Eliciting
5. Expand OCL
- (a) Object Control Language
(b) Object Constraint Language
(c) Output Constraint Language
(d) Output Control Language

6. Instances of classes is called _____.
- (a) Sequence (b) Interaction
(c) Component (d) Object
7. In UML, _____ is a collection of modeling elements that are grouped together because they are logically related.
- (a) object (b) interface
(c) package (d) component
8. _____ contains the underlying classes whose instances are to be viewed and manipulated in MVC.
- (a) View (b) Control
(c) UML (d) Model
9. Name the test which provide the system with inputs and observe the outputs, but they cannot see what is going on inside
- (a) gray test (b) black-box test
(c) white-box (d) glass box test

10. _____ software process model, software development as a series of hills, each representing a separate loop of the spiral.
- (a) Water fall (b) Prototype
(c) Spiral (d) Evolutionary

PART B — (5 × 5 = 25 marks)

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

Each answer should not exceed 250 words.

11. (a) List out the Ethics in Software Engineering.
- Or
- (b) Comment on Data abstraction.
12. (a) What is requirement in software engineering?
- Or
- (b) How to obtain information using Brain storming technique?
13. (a) Explain the classification of labels in association.
- Or
- (b) Discuss the elements in an interaction diagram.

14. (a) Describe the features of Architectural design.

Or

(b) Why you need to develop an architectural model?

15. (a) Mention the strategies for glass-box testing.

Or

(b) Give a testing strategy for performing Not handling null conditions.

PART C — (5 × 8 = 40 marks)

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

Each answer should not exceed 800 words.

16. (a) Write note on Inheritance.

Or

(b) Explain the categories of software engineering projects.

17. (a) Describe the Process and Platform requirement of the system.

Or

(b) Discuss about prototyping.

18. (a) Explain the activities and actions in state diagram.

Or

(b) Write note on Associations and Multiplicity.

19. (a) What is meant by Cohesion? Explain its types.

Or

(b) Discuss the Multi-Layer architectural pattern.

20. (a) Explain the Defects in timing and co-ordination.

Or

(b) Write note on spiral and evolutionary software process model.

(6 pages)

Reg. No. :

**Code No. : 20255 E Sub. Code : JMCA 52/
SMCA 52**

B.C.A. (CBCS) DEGREE EXAMINATION,
NOVEMBER 2021

Fifth Semester

Computer Application — Main

WEB TECHNOLOGY

(For those who joined in July 2016-2019)

Time : Three hours

Maximum : 75 marks

PART A — (10 × 1 = 10 marks)

Answer ALL questions.

Choose the correct answer :

1. Who invented world wide web?
 - (a) Tim Berners Lee
 - (b) Sir Thomas
 - (c) Charles Babbage
 - (d) Vint Cerf

6. What are the three important manipulations done in a for loop on a loop variable?
- (a) Updation, Incrementation, Initialization
 - (b) Initialization, Testing, Updation
 - (c) Testing, Updation, Testing
 - (d) Initialization, Testing, Incrementation
7. What is the correct syntax of the declaration which defines the XML version?
- (a) `<xml version="A.0"/>`
 - (b) `<?xml version="A.0"?>`
 - (c) `<?xml version="A.0"/>`
 - (d) `<?xml version="C.0"/>`
8. XML uses the features of
- (a) HTML
 - (b) XHTML
 - (c) VML
 - (d) SGML
9. In the context of Internet programming, what does CGI stand for?
- (a) Crappy Graphics Interface
 - (b) Computer Generated Images
 - (c) Common Gateway Interface
 - (d) Calculated Graphical Integration

10. What is the interface that allow web servers to talk to back end programs and scripts that can accept input and generate HTML pages in response?
- (a) Interior gateway interface
 - (b) Common gateway interface
 - (c) Exterior gateway interface
 - (d) Java

PART B — (5 × 5 = 25 marks)

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

Each answer should not exceed 250 words.

11. (a) Write note on MIME.
- Or
- (b) Explain about URL.
12. (a) Explain the tags : (i) (ii) <SUB>
(iii) <SUP>.

Or

- (b) How to embed images into a webpage?
Explain.

13. (a) Illustrate rules to define the variables in Java script.

Or

- (b) Mention the Java script comparison Operators.

14. (a) Write note on XML attributes.

Or

- (b) What is meant by valid XML documents?

15. (a) What is the difference between GET and POST method?

Or

- (b) Illustrate the CGI programming languages.

PART C — (5 × 8 = 40 marks)

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

Each answer should not exceed 800 words.

16. (a) Discuss about WWW in detail.

Or

- (b) Explain the classification of websites.

17. (a) Explain the table creation tags with an example.

Or

(b) Write note on <form> tags in detail.

18. (a) Describe the JavaScript switch statement.

Or

(b) How to construct Arrays in Java Script? Explain.

19. (a) Write note on XML DTD in detail.

Or

(b) Explain about XML Schema.

20. (a) Illustrate the Security with CGI Scripts.

Or

(b) Discuss the CGI Environment Variables in detail.

(6 pages)

Reg. No. :

**Code No. : 20256 E Sub. Code : JMCA 53/
SMCA 53**

B.C.A. (CBCS) DEGREE EXAMINATION,
NOVEMBER 2021.

Fifth Semester

Computer Application — Main

RDBMS

(For those who joined in July 2016-2019)

Time : Three hours

Maximum : 75 marks

PART A — (10 × 1 = 10 marks)

Answer ALL questions.

Choose the correct answer :

1. Which type is a character data type to store fixed length alphanumeric data in a column?
 - (a) varchar2
 - (b) char
 - (c) date
 - (d) time

2. The _____ constraint is also known as the entity integrity constraint.
- (a) foreign key (b) primary key
(c) unique key (d) check
3. The _____ query is used to retrieve data from existing tables.
- (a) select (b) alter
(c) update (d) none
4. The _____ clause in front of a column name returns non duplicate values.
- (a) distinct (b) date
(c) define (d) check
5. The _____ is a join with a join condition involving common columns from two tables.
- (a) equijoin (b) inner join
(c) cross join (d) outer join
6. A _____ statement performs the insert and update operation together.
- (a) merge (b) split
(c) alert (d) create

7. A declaration attribute _____ is used to anchor a variable with another variables data type.
- (a) %TYPE (b) %data
(c) %scalar (d) %cursor
8. _____ and _____ statements are not allowed in PL/SQL.
- (a) DDL DCL (b) DCL DML
(c) DML DDL (d) DDL Transaction
9. An _____ occurs when an unwanted situation arises during the execution of a program.
- (a) execution (b) accept
(c) execute (d) exception
10. _____ are single dimensional bounded collections of elements.
- (a) Arrays (b) X arrays
(c) V arrays (d) Z arrays

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 various data types used in oracle.

Or

- (b) How will you create an oracle table?

12. (a) How will you use where clause? Explain using example.

Or

- (b) Discuss about grouping data.

13. (a) Explain sub query with example.

Or

- (b) Write about synonyms in oracle.

14. (a) What is anchored declaration? Discuss it.

Or

- (b) How to bind variables in PL/SQL?

15. (a) Discuss PL/SQL records.

Or

(b) Explain PL/SQL tables.

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 constraints? Discuss with its types.

Or

(b) Explain the modification of table with an example.

17. (a) How will you retrieve data from a table?

Or

(b) Explain sorting with examples.

18. (a) What is join? Discuss its types.

Or

(b) Explain INDEX with suitable example.

19. (a) How data types are declared in PL/SQL.
Give an Example.

Or

- (b) Explain DML in PL/SQL.

20. (a) Explain V arrays with example program in PL/SQL.

Or

- (b) Explain PL/SQL cursors.
-

(6 Pages)

Reg. No. :

Code No. : 30519 E Sub. Code : SMCA 61

B.C.A.(CBCS) DEGREE EXAMINATION, APRIL 2022

Sixth Semester

Computer Application — Core

OPERATING SYSTEMS

(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 program that acts as an intermediary between the user of a computer and computer hardware.
- (a) Application
 - (b) Operating system
 - (c) Desktop
 - (d) Window

2. Operating system provides an _____ within which other programs can do useful work.
- (a) System
 - (b) Resource
 - (c) Power
 - (d) Environment
3. _____ is a program in execution.
- (a) Process
 - (b) Section
 - (c) Text
 - (d) Stack
4. Which state of a process defined? "The process has finished execution".
- (a) New
 - (b) Running
 - (c) Terminated
 - (d) Ready
5. Process synchronization can be done on
- (a) Hardware level
 - (b) Software level
 - (c) Both (a) and (b)
 - (d) User level
6. Which one of the following is the deadlock avoidance algorithm?
- (a) Banker's algorithm
 - (b) Round-robin algorithm
 - (c) Elevators algorithm
 - (d) Karn's algorithm

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7. An address generated by the CPU is commonly referred to as a _____ address.
- (a) Physical (b) Register
(c) Logical (d) Static
8. The run-time mapping from virtual to physical address is done by a hardware device called the _____ unit.
- (a) Register
(b) Memory-management
(c) Processor
(d) Bus
9. _____ is a named collection of related information that is recorded on secondary storage.
- (a) File (b) Data
(c) Page (d) Semaphore
10. Identify the block that contain information needed by the system to boot an OS from that partition
- (a) PCB
(b) FCB
(c) Boot control block
(d) Partition block

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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 main purpose of an operating system?
- Or
- (b) Distinguish between mainframe computers and personal computers.
12. (a) Describe the state of a process.
- Or
- (b) Comment on preemptive scheduling.
13. (a) Give a solution to the critical-section problem.
- Or
- (b) Narrate the necessary conditions for deadlock.
14. (a) Explain the address binding.
- Or
- (b) Compare first fit, best fit and worst fit storage strategies.

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[P.T.O]



15. (a) What are the operations performed in a file? Explain.

Or

- (b) Illustrate the features of storage area network.

PART C — (5 × 8 = 40 marks)

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

Each answer should not exceed 600 words.

16. (a) Write note on multiprogramming.

Or

- (b) Describe the advantages of multiprocessor systems.

17. (a) Explain the shortest-job-first scheduling algorithm.

Or

- (b) Illustrate the objectives of process scheduling.

18. (a) Discuss the banker's algorithm for deadlock avoidance.

Or

- (b) Write note on semaphores.

Page 5 Code No. : 30519 E

19. (a) Narrate the multistep processing of a user program.

Or

- (b) Describe the most common techniques used for structuring the page table.

20. (a) Write note on RAID structure.

Or

- (b) Explain the file access methods.

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(6 Pages)

Reg. No. :

Code No. : 30520 E Sub. Code : SMCA 62

B.C.A. (CBCS) DEGREE EXAMINATION, APRIL 2022

Sixth Semester

Computer Applications — Core

COMPUTER NETWORKS

(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. Identify the networks consist of many connections between individual pairs of machines
 - (a) Point-to-point
 - (b) Broadcast
 - (c) Packet
 - (d) Frames
2. A cable television network is example for
 - (a) LAN
 - (b) WAN
 - (c) MAN
 - (d) SAN

3. Optical fibers are made of
 - (a) Cables
 - (b) Resistors
 - (c) Glass
 - (d) Diodes
4. The OSI _____ layer is implemented mainly by hardware.
 - (a) Physical
 - (b) Presentation
 - (c) Application
 - (d) Session
5. At the _____ level, the trailer usually contains bits used for error detection.
 - (a) Network
 - (b) Session
 - (c) Transport
 - (d) Datalink
6. In which ARQ, when NAK is received, all frames sent since the last frame acknowledge are retransmitted
 - (a) Go Back n
 - (b) Stop-an-wait
 - (c) Selective-repeat
 - (d) Selective-reject

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7. Name the software responsible for deciding which output line an incoming packet should be transmitted on

- (a) Routing (b) Segmentation
(c) Protection (d) Swapping

8. A TCP packet is called a _____

- (a) user datagram (b) segment
(c) datagram (d) frame

9. In e-mail _____ function refers to moving messages from the originator to the recipient.

- (a) Transfer (b) Reporting
(c) Composition (d) Displaying

10. The art of breaking ciphers, called _____

- (a) cryptanalysis (b) plain text
(c) cipher text (d) key

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 principles of metropolitan area network.

Or

(b) Give a fundamental idea of home networks.

12. (a) Describe the characteristics of twisted pair.

Or

(b) Write note on micro wave transmission.

13. (a) Mention the basic strategies for dealing with errors.

Or

(b) Explain the simplex stop-and-wait protocols.

14. (a) Discuss the optimality principle.

Or

(b) Describe approaches used to control congestion in virtual circuit subnets.



15. (a) Give brief note on basic functions supported by e-mail systems.

Or

- (b) What is meant by Kerckhoff's principle?

PART C — (5 × 8 = 40 marks)

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

Each answer should not exceed 600 words.

16. (a) Examine the features of WAN.

Or

- (b) What are Design issues of the layers? Explain.

17. (a) Write note on geostationary satellites.

Or

- (b) Explain the principles guided transmission media.

18. (a) Discuss the simplex protocol for a noisy channel.

Or

- (b) Write note on pure ALOHA and slotted ALOHA.

Page 5 Code No. : 30520 E

19. (a) How hierarchical routing and broadcast routing algorithms works? Explain.

Or

- (b) Explain the features of transmission control protocol.

20. (a) Write note on AES.

Or

- (b) Describe the principles of digital signatures.

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(6 Pages)

Reg. No. :

Code No. : 30521 E Sub. Code : SMCA 63

B.C.A. (CBCS) DEGREE EXAMINATION, APRIL 2022

Sixth Semester

Computer Applications — Core

COMPUTER GRAPHICS

(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. Heat supplied to the cathode by directing a current through a coil of wire is called
 - (a) Electron gun
 - (b) Electron beam
 - (c) Filament
 - (d) Anode and cathode
2. Random-Scan system mainly designed for
 - (a) Realistic shaded screen
 - (b) Fog effect
 - (c) Line-drawing applications
 - (d) Aliasing

3. Why a circle drawn on the screen appears to be elliptical?
 - (a) It is due to the aspect ratio of monitor
 - (b) Screen has rectangular shape
 - (c) Our eyes are not at the same level on screen
 - (d) CRT is completely spherical
4. Expansion of line DDA algorithm is
 - (a) Digital difference analyser
 - (b) Direct differential analyser
 - (c) Digital differential analyzer
 - (d) Data differential analyser
5. The transformation in which an object is moved in a minimum distance path from one position to another is called _____
 - (a) Scaling
 - (b) Translation
 - (c) Rotation
 - (d) Reflection
6. The transformation in which the dimension of an object are changed relative to a specified fixed point is called
 - (a) Translation
 - (b) Rotation
 - (c) Reflection
 - (d) Scaling

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7. A process which divides each segment of the picture into its visible and invisible portion, allowing the invisible portion to be discarded is called
- (a) Clipping (b) Windowing
(c) Segmenting (d) Filling
8. Mapping the world co-ordinates into physical device co-ordinates is called _____
- (a) Translation
(b) Homogeneous transformation
(c) Co-ordinate conversion
(d) Viewing transformation
9. The surfaces that is blocked or hidden from view in a 3D scene are known as
- (a) Hidden surface (b) Frame buffer
(c) Quad tree (d) Stack
10. The method which is based on the principle of comparing objects and parts of objects to each other to find which are visible and which are hidden are called
- (a) image-space method
(b) surface space method
(c) segment based
(d) object-space method

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 graphics software packages.

Or

- (b) Write note on graphical output devices.

12. (a) Explain the polynomial method for scan conversion.

Or

- (b) Illustrate the steps involved in Odd-Even method.

13. (a) Discuss the 2D translation transformation.

Or

- (b) Describe the transformation of points and objects.

14. (a) What is meant by Windows and Viewports?

Or

- (b) Describe the process of clipping against concave windows.



15. (a) What are the challenges in removal of hidden parts from images of solid objects?

Or

- (b) Describe the types of hidden surface detection methods.

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 applications of computer graphics.

Or

- (b) Illustrate the common input devices.

17. (a) Explain the DDA line drawing algorithm.

Or

- (b) Discuss the algorithm for scan line fill and scan line seed fill algorithm.

18. (a) How to perform 2-D reflection transformation? Explain.

Or

- (b) Explain the 3-D translation transformation and 3-D shearing.

Page 5 Code No. : 30521 E

19. (a) Discuss the Cohen-Sutherland clipping algorithm.

Or

- (b) Write an algorithm for Liang - Barsky clipping technique.

20. (a) Illustrate the Z-buffer algorithm.

Or

- (b) Explain the back face removal algorithm in detail.

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