	DPG STM, GURUGRAM (NAAC Accredited 'A' Grade College) Sessional Exam Course Name: BCA Subject Name: Mathematics(MFCS) Subject Code: 23BCA401DS01	**Semester:** 1st **Session:** NOVEMBER **Academic Year:** 2024 **Total marks:** 80 **Time Duration:** 03:00 hrs.

Q.N	Questions	Blooms Level	COs	Marks
	Compulsory Question			
1	Define Disjoint sets with example.	Creating	CO1	8X2=16
		Creating	CO1	
	Given	Remembering	CO3	
	If	Remembering	CO3	
	If	Evaluating	CO2	
		Evaluating	CO2	
	Evaluate the limits:	Evaluating	CO4	
		Creating	CO1	
	Show that does not exist.			

	Define Singular and Non-Singular Matrix. Define finite and infinite set with example.			

2	In a class of 1000 students, 625 students pass in Mathematics and 525 pass in English. How many students pass in Mathematics only and how many students pass in English only. If U= , A=, B= and C= Compute: (i) (ii) C – B(iii) B – C (iv)	Creating	CO1	8+8=16
3	Let N denote the set of all natural numbers and R be the relation on N X N defined by . Show that R is an equivalence relation on N X N. Prove that f is a bijective function and	Understanding	CO1	8+8=16

	hence find its inverse where is defined as .			
	Unit-2 (Attempt any one question)			
4	Prove that SinA + SinB + SinC = 4Cos(A/2). Cos(B/2). Cos(C/2). Solve 4Cos 30° - 45°.	Remembering	CO2	12+4=16
5	Evaluate the limits: Show that has a discontinuity of second kind at x = a	Evaluating	CO2	8+8=16
	Unit-3 (Attempt any one question)			
6	Differentiate w.r.t. x. Differentiate the following function w.r.t x:	Remembering	CO3	8+8=16
7	Find if	Remembering	CO3	8+8=16
	Unit-4 (Attempt any one question)			

3	Solve the following system of equations: $x + 2y = 4$ $2x + 5y = 9$ Find the inverse of the matrix, A =	Applying	CO4	8+8=16
9	Prove that = xyz (x - y)(y – z)(z – x) If A = , B = , prove that (AB)' = B'A' .	Evaluating	CO4	8+8=16

<table>

	DPGSTM,GURUGRAM **Sessional Exam** **Course Name:BCA** **Subject Name: Computer Fundamentals and Problem Solving using C** **SubjectCode:23BCA401DS02**	**Semester:**1ST **Session:**NOV **AcademicYear:**2024 **Total marks:** 50 **Time Duration:** 03:00hrs.

</table>

Note:1. Question no.1is compulsory.
2.Marks are indicated against the questions.

Q.N	Questions	Blooms Level	Cos	Marks
	Compulsory Question			
1	A. DefineConputer. B. Whatis CProgramming? C. WhatareJump Statement? D. WhatisfunctionPrototype?	2 1 1 1 1	1 1 2 2 2	10
	(Unit-1 (Attempt any One question)			
2	a. Explaintheapplicationofcomputerinthefieldofhospital and sports. b. Explainvariouscomponentofadigitalcomputersystemwith a block diagram.	2	1	10

3	a. WhatisOperatingsystem.ExplainthevariousFunctionsof Operating System. b. WhatisMemory.ExplainPrimaryandSecondaryMemoryin detail.	1	1	10
	(Unit-2 (Attempt any Onequestion)			
4.	DefineClanguage.Explainitsimportanceandelements.Alsoexplain about data type.	1	2	10
5	DefinetheTechniquesofProblemsolving:FlowChartand Algorithms	1	2	10
	(Unit-3 (Attempt any Onequestion)			
6	Describethefollowing: i. Elseifladder ii. Nestedifstatement	2	3	10
7	Explainany Two: i. Whileloop ii. Dowhileloop iii For loop	2	3	10

Q. N	Questions	Blooms Level	COs	Marks	
	(Unit-4 (Attempt any One question)				
8	a. Define the local and Global variables. b. What are the difference between call-by-value and call-by-reference?		1,2	4	
9	Define Array. Explain types of Array and Initialization of Array.		1,2	4	

DPG DEGREE COLLEGE, GURUGRAM	Semester-1st
ACCREDITED NAAC 'A' GRADE & AFFILIATED TO MDU, ROHTAK	Session: NOVEMBER
SESSIONAL EXAM	Academic Year: 2024
Course Name: BCA(AEC)	
Subject Name-HINDI	Total marks: 35
Subject Name & Code:	Duration: 03 Hours

Note:

Q. N	Questions	Blooms Level	COs	Marks
	Compulsory Question			
	1. वर्तनी संबंधी अशुद्धियों के क्या कारण हैं? 2. गुरु गोविंद सिंह जी ने कौन ऑकौन से कार्य किए? 3. अनुवादक के गुण लिखो। 4. पत्र प्रस्तुतीकरण का क्या अर्थ है?	3	2	2×4=8
	Unit-1			
	1. लिपि का मानकीकरण कैसे किया जाता है और उसकी क्या आवश्यकता है? अथवा	4	3	8
	2. राष्ट्रीय चेतना का अर्थ, परिभाषा और स्वरूप लिखो।			
	Unit-2			
	4. आलोचनात्मक साहित्य का अर्थ, परिभाषा और स्वरूप लिखो। अथवा	4	3	8

5. मंच संचालक में कौन कौन से गुण होने चाहिए और उसकी भाषा कैसी होनी चाहिए।				
Unit-3				
6. अनुवाद का अर्थ और उसका महत्व लिखो। अथवा	3	4		6
7. बैंकिंग साहित्य का अनुवाद और डबिंग क्षेत्र में अनुवाद।				
Unit-4				
8. सामूहिक परिर्चचा कौशल किसे कहते हैं?अथवा	4	3		5
9. प्रस्तोता का मनोबल कैसे बढ़ाया जा सकता है?				

DPG STM, GURUGRAM (NAAC Accredited 'A' Grade College) **Sessional Exam** Course Name: BCA Subject Name: Web development-I Subject Code: 24CSC401SE01	Semester: 1st Session: DEC Academic Year:2024
	Total marks:20 Time Duration: 03:00 hrs.

Note: 1. Question no. 1 is compulsory.

2. Attempt any one question from each unit.
3. Marks are indicated against the questions.

Q.N	Questions	Blooms Level	Cos	Marks
Compulsory Question				
1	Explain the following in detail **(Attempt any four questions)** a) WWW b) Web Browsers c) DHTML d) CSS e) Web Browsers	II	 CO1 CO1 CO1 CO1 CO1	4
Unit-1 (Attempt any one question)				

2	What is HTP. Explain search engines and Web-casting Technique.	I	CO1	4
3	a) Evolution and history of www.and Explain URLs. a) Explain client -side and server -side scripting.	II II	CO1 CO2	4
	Unit-2 (Attempt any one question)			
4	a) What is web publishing.What is Internet service provider b) Explain HTML document features and HTML command tags,	I V	CO2	4
5	a) Describe various phase of planning and designing your web site. b) Define DHTML and its features. Explain page layouts.	I I	CO5	4
	Unit-3 (Attempt any one question)			
6	a) Explain features of Java and ASP in detail. b) Define VBScript and Macromedia Dreamweaver.	V II	CO4	4
7	a) Explain JavaScript and element access in JavaScript b) Define DOM 2 event model with DOM tree traversal and its modification.	II I	CO2	4
	Unit-4 (Attempt any one question)			
8	a) How to create multi column layout with float? How to set background image? b) How to controlling the position of elements? Explain styling form.	II	CO5	4
9	Define following in detail:- i) How to insert graphics in html program. ii) What are CSS selectors.	I	CO3	4

	iii) Explain Inline styles using internal and external CSS.			

		Semester: 1ST
	DPG STM, GURUGRAM	Session: NOVEMBER
	(NAAC Accredited 'A' Grade College)	Academic Year:2024-25
	<u>Sessional Exam</u>	
	Course Name: BCA 1 sem All	**Total marks:**35
	Subject Name:Value Added Course	**Time Duration:**
	Subject Code:23CSAX01VA01	03:00 hrs.

Q.N	Questions	Blooms Level	Cos	Marks
	Compulsory Question			
1	a).Explain the importance of ICT in your life.	II	CO1	7
	b). What is a web browser? Explain in brief.	I,II	CO2	
	c). Explain Artificial Intelligence.	II	CO3	
	d). What is USSD?	1	CO4	
	e). Define web browser.	I	C02	
	f). What do you meant by Digital Marketing?	I,II	C02	
	g). Difference between B2B and B2C.	III	C02	
	Unit-1 (Attempt any one question)			
2	What is a Computer system? Explain the components of computer system with diagram and how do they work together?	I,II	CO1	7
3	What do you mean by flowcharts? What are the various of flowchart? Explain in detail.	I	CO1	7
	Unit-2 (Attempt any one question)			
4	Explain various types of transmission media in computer networks with diagrams.	II	CO2	7
5	What is E-Commerce? What are the benefits of E-Commerce?	I	CO2	7
	Unit-3 (Attempt any one question)			
6	What is Big Data? Explain its characteristics, and types.	I,II	CO3	7
7	What is cloud computing? Explain various advantages of cloud computing?	I,II	CO3	7
	Unit-4 (Attempt any one question)			

8	Discuss credit cards and Internet banking with advantages of each in brief.	VI	CO4	7
9	Discuss various threats and challenges of Cyber security in detail.	VI	CO4	7

	DPG STM, GURUGRAM (NAAC Accredited 'A' Grade College) **Sessional Exam** Course Name: BCA Subject Name: Introduction to Operating System Subject Code: BCA-201	Semester: 3rd Session: November Academic Year: 2024 Total marks: 80 Time Duration: 03:00 hrs.

Note: 1. Question no. 1 is compulsory.

4. Attempt any one question from each unit.

5. Marks are indicated against the questions.

Q.N	Questions	Blooms Level	COs	Marks
Compulsory Question				
1	Write a short note on the following :			4*4=16
	a) Operating System	I	CO1	
	b) Cooperating Process	I	CO1	
	c) Swapping	I	CO3	
	d) Disk Structure	I	CO4	
Unit-1 (Attempt any one question)				
2	Explain the following: a) Batch OS b) Process States c) Real Time OS d) Threads	V	CO1	4*4=16
3	a) Discuss the various services/functions provided by the Operating System in detail.	VI	CO1	2*8=16
	b) Explain Inter-Process Communication in detail	V	CO1	
Unit-2 (Attempt any one question)				
4	Suppose following processes arrive for execution at the time indicates. Evaluate the average waiting time and average turnaround time for these processes with a) FCFS b) SJF c) Round Robin (TQ = 3) d) Non-Preemptive Priority	V	CO2	16

Processes	Arrival Time	Brust Time	Priority

	P1	0	7	1			
	P2	1	5	5			
	P3	2	3	4			
	P4	6	2	6			
	P5	12	3	3			
5	What is Deadlock? Discuss the four necessary conditions of Deadlock. Explain different methods for Handling Deadlocks.				VI	CO2	16

Unit-3 (Attempt any one question)

6	Differentiate between the following: - a) Contiguous and Non-contiguous memory allocation. b) External and Internal fragmentation.	IV	CO3	2*8=16
7	a) Explain the concept of Paging and Segmentation in details.	V	CO3	2*8=16
	b) What is page fault? Discuss atleast two Page Replacement algorithms along with an example.	VI	CO3	

	Unit-4 (Attempt any one question)			
8	Suppose that a disk has total number of tracks from 0 to 199.The disk is currently serving a request (CH) at cylinder 53, and the previous head count (PHC) is 58. The request for servicing the tracks are as follows: 15, 144, 27, 72, 45, 67, 98, 128, 178, 183 Calculate the total head movements using the following Disk Scheduling algorithms a) SSTF b) FCFS c) SCAN d) C-Look	VI	CO4	16
9	What is file management? Explain the various File Allocation Methods.	V	CO4	16

	DPG STM, GURUGRAM (NAAC Accredited 'A' Grade College) **Sessional Exam** **Course Name:** BCA **Subject Name:** Management Information System **Subject Code:** BCA-301	**Semester: 5th** **Session:** NOVEMBER **Academic Year:** 2024 **Total marks:** 80 **Time Duration:** 03:00 hrs.

Note: 1. Question no. 1 is compulsory.
6. Attempt any one question from each unit.
7. Marks are indicated against the questions.

Q.N	Questions	Blooms Level	COs	Marks
Compulsory Question				
1 a)	What MIS?	I	CO1	16
b)	Difference between structured and unstructured decision.	I	CO2	
c)	What is Simon's Model of decision-Making?	I	CO3	
d)	What is PitfallsinMISDevelopment?	I	CO4	
Unit-1 (Attempt any one question)				
2	What do you mean by system? Explain different type of system?	V	CO1	16
3	What is information system? Describe the role of information system in decision making.	VI	CO1	16
Unit-2 (Attempt any one question)				
4	Explain the concept of MIS .Write various component of MIS.	I	CO2	16
5	Explain the concept of DSS? Describe various type of decision.	VI	CO2	16
Unit-3 (Attempt any one question)				
6	How to evaluate the MIS? Explain Analysis and design of MIS.	II	CO3	16
7	What is implement? Explain the types of implement? Also define method.	V	CO3	16
Unit-4 (Attempt any one question)				
8	Describe the role of Information System in Production management.	VI	CO4	16
9	What is E-commerce? Explain the types of E-commerce?What are the application of E-commerce?	I, V	CO4	16

	DPG STM, GURUGRAM	Semester: 5TH Session: NOVEMBER Academic Year: 2024
	(NAAC Accredited 'A' Grade College)	
	Sessional Exam Course Name: BCA (Final Year) **Subject Name: Computer Graphics**	
	Subject Code: 302	**Total marks:** 80
		Time Duration:
		03:00 hrs.

Note: 1. Question no. 1 is compulsory.

 2. Attempt any one question from each unit.

 3. Marks are indicated against the questions.

Q.N	Questions	Blooms	COs	Marks

		Level		
Compulsory Question				
1	Explain the following: (a) Plasma Display. (b) 2D viewing pipeline (c) Hermite Curve (d) 3D Shearing	V	CO1 CO2 CO3 CO4	4*4
Unit-1 (Attempt any one question)				
2	Explain Computer Graphics and its areas of application in detail.	V	CO1	16
3	(a) Explain mid- point circle algorithm. (b) What is Flood -Fill algorithm ? Explain its significance in output primitives.	V I	CO1	2*8
Unit-2 (Attempt any one question)				
4	Explain the 2D Geometric basic transformations .Also write their matrix representation.	V	CO2	16
5	What is Sutherland -Hodgeman polygon clipping algorithm Illustrate with example.	I	CO2	16
Unit-3 (Attempt any one question)				
6	Define Bezier and B-Spline surfaces in detail.	I	CO3	16
7	Explain the various Polygon -rendering Methods in detail.	V	CO3	16
Unit-4 (Attempt any one question)				
8	(a) What is 3D Composite Transformation? (b) Explain 3D Reflection.	I V	CO4	2*8
9	What is general projection transformation.Explain its various types.	I	CO4	16

	DPG STM, GURUGRAM **(NAAC Accredited 'A' Grade College)** **Sessional Exam** Course Name: BCA Subject Name: DATA STRUCTURE	**Semester:** 3rd semester **Session:** NOVEMBER **Academic Year:** 2024
		Total marks: 80 **Time Duration:**

	Subject Code: BCA-202		03:00 hrs.	

Q.N	Questions	Blooms Level	COs	Marks
Compulsory Question				
1	Write a short note on:- a) Parallel array b) Circular queue c) Garbage collection d) String operations	I	CO1 CO2 CO3 CO4	16
Unit-1 (Attempt any one question)				
2	Discuss the complexity of algo. what do you understand by time and space tradeoff ?what is the significance of big o notation.	VI	CO1	16
3	Define data structure . Differentiate between primitive and non primitive data structure. Also describe various operations performed on data structure .	I	CO1	16
Unit-2 (Attempt any one question)				
4	What you understand by linked list ?what are its merits and demerits over array? Write a program in c to insert and delete on a singly linked list.	I	CO2	16
5	What is an array ?Discuss various operations on linear array and write an algorithm for inserting and deleting an element .	I	CO2	16
Unit-3 (Attempt any one question)				
6	a)What is postfix notation . Explain the method of evaluating postfix expression using stack by giving suitable example. b)Write an algorithm for insert an element to circular queue using array.	I	CO3	16
7	a) What is stack ?Explain different operations on stack in detail . b) Give a complete description about recursion .	I	CO3	16

	Unit-4 (Attempt any one question)			
8	what is binary tree and strictly binary tree?explain the various methods of representation a binary tree in memory.	I	CO4	16
9	what is graph? how to represent graph? explain with example	I	CO4	16

DPG STM, GURUGRAM	Semester: 5th

	DPG STM, GURUGRAM	**Semester: 5th**
	Sessional Exam	**Session: NOV**
	Course Name: BCA	**Academic Year:** 2024
	Subject Name: Data Communication and Networking	**Total marks:** 80
	Subject Code: BCA-303	**Time Duration:** 03:00 hrs.

Note: 1. Question no. 1 is compulsory.

   10.   *Attempt any one question from each unit.*

   11.   *Marks are indicated against the questions.*

Q.N	Questions	Blooms Level	COs	Marks
Compulsory Question				

1	Explain the following:-
	
	   a. X.25
	
	   b. DSL Service
	
	   c. Gateway
	
	   d. Virtual circuit and datagram
		II	CO1
			 CO2
			 CO3
			 CO4
				16

Unit-1 (Attempt any one question)				
2	Define Computer Network. Explain types of computer networks and their topologies.	I,II	CO1	16
3	Describe ISO-OSI reference model in detail with proper diagram.	V	CO1	16
Unit-2 (Attempt any one question)				
4	What is Modulation? Explain various techniques of modulation.	I,II	CO2	16
5	What is Switching? How packet switching is different from message switching? Explain.	I	CO2	16

Unit-3 (Attempt any one question)				
6	Compare error detection and error correction. Explain various error detection method with the help of suitable example.	II	CO3	16
7	Explain the following:- a. Ethernet b. Token Ring	II	CO3	16
	Unit-4 (Attempt any one question)			
8	What do you mean by routing? What are its objectives? Explain different types of routing algorithm.	I,II	CO4	16
9	a. What is Congestion? Discuss the policies related to congestion and ways of congestion control. b. What is Encryption? Discuss public-key algorithms for network security.	I,VI	CO4	16

	DPG STM, GURUGRAM **(NAAC Accredited 'A' Grade College)** <u>**Sessional Exam**</u> **Course Name: BCA** **Subject Name: DBMS** **Subject Code: 203**	**Semester: 3RD** **Session: NOVEMBER** **Academic Year:** 2024
		Total marks: 80 **Time Duration:** 03:00 hrs.

Note: 1. Question no. 1 is compulsory.

12. Attempt any one question from each unit.

13. Marks are indicated against the questions.

Q.N	Questions	Blooms Level	COs	Marks
Compulsory Question				
1	**a)** What do you mean by data redundancy?	I		16
	b) Define data integrity.	I	CO1	
	c) Explain data concurrency in the database system.	II	CO2	
	d) What is an instance?	I	CO3	
			CO4	

Unit-1 (Attempt any one question)			
2	What are the different types of users who interact with the database? Explain each in brief.	I&II	CO1	16
3	What do you mean by DBMS? Explain the various functional components of DBMS Also, discuss the advantages and disadvantages	I&II	CO1	16
Unit-2 (Attempt any one question)			
4	What do you mean by Database System Architecture? Explain in detail.	I&II	CO2	16
5	**a)**What do you mean by Database Independence? Also, explain the Logical and physical data independence.	I&II	CO2	16
	b)Explain the client and server architecture to DBMS.	II		
Unit-3 (Attempt any one question)			
6	a) Explain the following: 1. Attributes 2. Domain 3. Entity 4. Entity types and Entity Set	II	CO3	16
	b) What is Mapping Cardinalities? Explain the various types of cardinality.	I&II		
7	a) Design an ER model for a healthcare management system	VI	CO3	16
	b) Define the term data model, What are the different types of data models?	I		
Unit-4 (Attempt any one question)			
8	A)What is the need for Normalization? Define and discuss different types of normalizations with suitable examples.	I,II&VI	CO4	16
	b) Differentiate between Relational Algebra and Relational Calculus.	IV		
9	What is SQL? What are the major components of SQL? Write the syntax for creating a table, inserting values in the table, updating the values and selecting the fields. Use suitable examples for each.	I	CO4	16

	DPG STM, GURUGRAM	Semester: Vth
	(NAAC Accredited 'A' Grade College)	Session: November
	Sessional Exam	Academic Year: 2024
	Course Name: BCA	
	Subject Name: Visual Basic	**Total marks:** 80
	Subject Code: BCA-304	**Time Duration:** 03:00 hrs.

Note: 1. Question no. 1 is compulsory.

14. *Attempt any one question from each unit.*

15. *Marks are indicated against the questions.*

Q.N	Questions	Blooms Level	COs	Marks
	Compulsory Question			
1	a) How to declare constant in VB?	I	CO2	4*4=16
	b) Write a short note on Input Box.	I	CO2	
	c) What do you mean by Subroutines?	I	CO4	
	d) What is Exit statement?	I	CO3	
Unit-1 (Attempt any one question)				
2	a) Differentiate Visual and Non Visual Programming Language.	IV	CO1	2*8=16
	b) What is Visual Basic? What is event driven programming language? Explain.	V		
3	a) Differentiate between Procedural and Object Oriented Programming Language.	IV	CO1	2*8=16
	b) What do you mean by Tool Box and Properties of windows in VB? Explain.	V		
Unit-2 (Attempt any one question)				
4	Explain various Controls in VB with example.	V	CO2	16
5	a) What do you mean by variable? Explain the scope and declaration of variable used in VB.	V	CO2	2*8=16
	b) What is Datatype? Discuss different user defined datatype supported by VB.	VI		
Unit-3 (Attempt any one question)				
6	Elaborate For next loop, While wend loop and Do-while loop in VB with example.	VI	CO3	16
7	a) What is array? Explain its type. How to declare and use the array.	I	CO3	2*8=16
	b) Explain various Decision statement with example in VB.	IV		

Unit-4 (Attempt any one question)				
8	What do mean by procedures and functions? Explain in detail.	V	CO4	16
9	Explain the following: a) Load and Unload statement. b) Show and Hide method.	V	CO4	2*8=16

	DPG STM, GURUGRAM **Sessional Exam** **Course Name:** BCA **Subject Name:** Communication Skills [English] **Subject Code:** bca-204	**Semester: 3rd** **Session:** NOV- DEC **Academic Year:** 2024
		Total marks: 80 **Time Duration:** 03:00 hrs.

Note: 1. Question no. 1 is compulsory.

2. Attempt any one question from each unit.

3. Marks are indicated against the questions.

Q.N	Questions	Blooms Level	COs	Marks
Compulsory Question				
1	Write Short note on any 4 from the following:- Decoding Group Discussion The Shanon- Weaver Model Verbal Communication	I	 CO1 CO2 CO2 CO3	16
Unit-1 (Attempt any one question)				
2	What is Communication Process? Explain the theories of communication.	I	CO1	16
3	What do you mean by Communication Barriers? Explain various measures to overcome the communication barriers?	I	CO1	16

Unit-2 (Attempt any one question)				
4	What is Listening? Describe it's process?	I	CO2	16
5	Define Non- verbal communication? Explain it's importance.	V	CO2	16
Unit-3 (Attempt any one question)				
6	What is Interview? Describe the steps in the interview process.	I	CO3	16
7	Explain the main types of interview.	II	CO3	16

Unit-4(Attempt any one question)				
8	Make 2 words by using prefix:- pre, un, re Make 2 words by using suffix:- ful, ed, ing Give antonyms :- fair, rough, bitter Give synonyms:- brave, delicious, quiet One word substitution:- one who loves his country, one who hates mankind, study of human mind, fear of water.	I	CO3	16
9	Explain how one can improve vocabulary. With examples.	II	CO3	16