B.S. Abdur Rahman Crescent Institute of Science & Technology
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CSD 2204

RRN	2	1	0	1	9	1	6	0	1	0	0	2

CONTINUOUS ASSESSMENT TEST- 1 MARCH 2023

Programme & Branch	:	B.Tech & CSE, CSE (IoT) ,CSE(Cyber Security)		
Semester	:	IV	Date & Session	: 09/03/2023 & AN
Course Code & Name	:	CSD 2204 & Operating Systems		
Duration	:	90 minutes	Maximum Marks	: 50

ANSWER ALL QUESTIONS

PART A (5 X 2 = 10 MARKS)

1. List any three objectives of operating systems.
2. State any two services of operating systems.
3. Define degree of multiprogramming.
4. Distinguish between user thread and kernel thread.
5. Mention the significance of throughput and waiting time.

PART B (2 X 16 = 32 MARKS)

6.a	(i)	Describe in detail about simple batch systems.	(8)
	(ii)	Elucidate the layered design of operating systems with suitable diagram.	(8)
		(OR)	
b	(i)	Deliberate any four system calls with suitable commands.	(8)
	(ii)	Compare and contrast windows and UNIX operating systems.	(8)
7.a	(i)	With a neat sketch, explain the various states of a process.	(8)
	(ii)	Discuss about the multithreading models in detail.	(8)
		(OR)	
b	(i)	Describe the short term and medium term scheduler with a neat diagram.	(8)
	(ii)	Illustrate multilevel feedback queue scheduling with a suitable example.	(8)

PART C (1 X 8 = 8 MARKS)

8.a (i) Draw the gantt chart and calculate the average turnaround time and waiting time for the shortest remaining time first (SRTF) algorithm.

Process	Arrival Time	Burst Time
P1	0	15
P2	2	3
P3	5	5
P4	6	8
P5	7	12

(8)

(OR)

b. (i) Assume that the following jobs have arrived in the order 1,2,3,4 and 5 at time T0

Process	Burst Time	Priority
P1	10	3
P2	1	1
P3	2	3
P4	1	4
P5	5	2

Draw the gantt chart and calculate the average turnaround time and waiting time for non-preemptive priority scheduling algorithm. (8)

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Cat - I
Sem - IV
OS

B.S. Abdur Rahman Crescent Institute of Science & Technology
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CSDX 210

RRN | 2 | 1 | 0 | 1 | 9 | 1 | 6 | 0 | 1 | 0 | 0 | 2 |

CONTINUOUS ASSESSMENT TEST- 1 MARCH 2023

Programme & Branch	: B.Tech. & CSE, CSE(IoT)		
Semester	: IV	Date & Session	: 11/03/2023 & AN
Course Code & Name	: CSDX 210 & SOFTWARE CONFIGURATION AND RISK MANAGEMENT		
Duration	: 90 minutes	Maximum Marks	: 50

ANSWER ALL QUESTIONS

PART A (5 X 2 = 10 MARKS)

1. Define SCM.
2. How the components of the project are identified in SCM?
3. List the features of Baseline.
4. Differentiate configuration control and change control in SCM.
5. What is defect management?

PART B (2 X 16 = 32 MARKS)

6.a (i) Discuss the types of software process framework activities for the problem to be solved in SDLC. **(16)**

(OR)

b (i) Demonstrate the evolutionary software process model that couples the prototyping and waterfall model. **(16)**

7.a (i) Explain the main components of software configuration management that interact together and realize as a whole system. **(16)**

(OR)

b (i) Elaborate the traditional activities and functions that are used in the development process of SCM? **(16)**

PART C (1 X 8 = 8 MARKS)

8.a Software Industry in Jordan has introduced new technologies but the SCM is not utilized in the environment yet and the configuration management is new to the companies. Examine the challenges to enhance and adopt software configuration management process in Jordan. (8)

(OR)

b. A business wants to assign a score to the problem as per the number of complaints received. Analyze the problem to reduce the number of complaints using pareto analysis.

Sl.No.	Problem	Root Cause	Score (No. of Complaints)
1	Phone calls are not picked up quickly.	Too few staff at centre	16
2	Staff at the service does not have enough knowledge to resolve customer complaints.	Lack of training	35
3	Staff is too few due to which they are under pressure	Poor organization	18

(8)

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Cat - I
Sem - IV
Software

B.S. Abdur Rahman Crescent Institute of Science & Technology
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CSD 2202

RRN	2	1	0	1	7	1	6	0	1	0	0	4

CONTINUOUS ASSESSMENT TEST- 1 MARCH 2023

Programme & Branch	: B.Tech & CSE,CSE(CS) ,CSE(IoT)			
Semester	: IV	Date & Session	:	07/03/2023 & AN
Course Code & Name	: CSD 2202 & Analysis of Algorithms			
Duration	: 90 minutes	Maximum Marks	:	50

ANSWER ALL QUESTIONS

PART A (5 X 2 = 10 MARKS)

1. How is an algorithm's time efficiency measured?
2. Give the time complexity of the following code

```
func()
    { for(i=1;i<=n;i=i+3)
      printf("Crescent"); }
```

3. Write the recurrence equation for binary search.
4. Define big oh notation.
5. What are the algorithmic design techniques?

PART B (2 X 16 = 32 MARKS)

6.a (i) Design a recursive algorithm to compute the factorial of an arbitrary non negative integer and also derive the recurrence relation. **(8)**

(ii) Explain the various asymptotic notations used to represent the rate of growth of running time of algorithms. **(8)**

(OR)

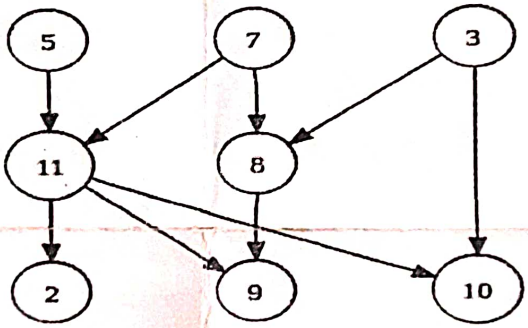
b (i) Calculate the asymptotic complexity of the code segments shown below (using big oh notation) with respect to the problem size n:

```
Void func1(){
int i,j,k,n;
   for(i=1;i<=n;i++)
          for(j=1;j<=i²;j++)
          for(k=1;k<=500;k++)
          printf("Institute");}
```

- void func2(int n) {
  for(i = 1 ; i <= n/4 ; i + +)
  for(j = 1 ; j <= n ; j *= 3)
  printf("Institute"); }
- void func3(){
  for(i=n/2;i<=n;i++)
  for(j=1;j<=i²;j++)
  for(k=1;k<=200;k++)
  printf("Institute"); }
- void func4(){
  for(i=0;i<=n;i++)
  for(j=1;j<=n-1 ;j++)
  printf("Institute"); }

(16)

7.a (i) Find the topological sort for the following graph. Write the time complexity.



(8)

(ii) Compare and contrast depth first search with breadth first search. (8)

(OR)

b (i) Sort the following numbers using bubble sort and insertion sort {45, 27, 91, 21, 17, 13, 23, 19, 57, 31}. Write an algorithm and derive the time complexity for both. (16)

PART C (1 X 8 = 8 MARKS)

8.a Develop the algorithm for finding maximum and minimum value in an array of N elements and analyze the time complexity. (8)

(OR)

b. Illustrate the decrease by a constant factor technique for finding the position of largest element in an array of N numbers and derive the time complexity. (8)

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B.S. Abdur Rahman Crescent Institute of Science & Technology
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CSD 2201

RRN | 2 | 1 | 0 | 1 | A | 1 | 6 | 0 | C | 0 | 0 | 2 |

CONTINUOUS ASSESSMENT TEST- 1 MARCH 2023

Programme & Branch	: B.Tech. & CSE, CSE(IoT), CSE(CS)		
Semester	: IV	Date & Session	: 06/03/2023 & AN
Course Code & Name	: CSD 2201 & Computer Communication and Networks		
Duration	: 90 minutes	Maximum Marks	: 50

ANSWER ALL QUESTIONS

PART A (5 X 2 = 10 MARKS)

1. List the uses of computer network.
2. What are the major functions of data link layer?
3. State the purpose of network interface card.
4. How are networks categorized?
5. Distinguish gateways and router in computer networks.

PART B (2 X 16 = 32 MARKS)

6.a (i) Identify the number of cable links required for a mesh, ring, bus and star topology for a network having n devices. (8)

(ii) Explain in detail about transmission control protocol / internet protocol suite with a neat diagram. (8)

(OR)

b (i) Differentiate service port addressing, logical addressing and physical addressing. (8)

(ii) Investigate the purpose of OSI reference model and sketch the layered architecture of the same. (8)

7.a (i) Evaluate the principle of datagram packet switching and virtual circuit switching. (8)

(ii) Illustrate the algorithm for stop and wait protocol. (8)

(OR)

b (i) Describe the different types of error detection methods with suitable examples and give its advantages and disadvantages. (16)

PART C (1 X 8 = 8 MARKS)

8.a Design the cyclic redundancy check for the data block 100100 with the divisor 1101. (8)

(OR)

b. Construct the LRC for the data blocks 11100111 11011101 00111001 10101001 and determine the data that is transmitted (8)

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Cont - I.
Sem - IV.
CC.

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CSD 2241

RRN 2 1 0 1 9 1 6 0 1 0 0 2

CONTINUOUS ASSESSMENT TEST- 1 MARCH 2023

Programme & Branch	: B.Tech CSE(IOT)		
Semester	: IV	Date & Session	: 08/03/2023 & AN
Course Code & Name	: CSD 2241 & Microprocessor and Embedded System Design		
Duration	: 90 minutes	Maximum Marks	: 50

ANSWER ALL QUESTIONS

PART A (5 X 2 = 10 MARKS)

1. Give any two examples of microprocessor based system.
2. Identify the instruction format of MOV A,B & LHLD 8200h.
3. Compare 8085 and 8086 microprocessors.
4. Draw the flag pattern of 8086 microprocessor.
5. Define pipelining.

PART B (2 X 16 = 32 MARKS)

6.a (i) With a neat diagram, explain the functional pin diagram of 8085 microprocessor. (16)

(OR)

b (i) Explain the features and functions of the 8086 microprocessor with a neat architecture diagram. (16)

7.a (i) Briefly discuss on any four assembler directives. (8)

(ii) Outline the classification of instruction sets of 8086 microprocessor. (8)

(OR)

b (i) Describe the various addressing modes of 8086 microprocessor with suitable examples. (16)

PART C (1 X 8 = 8 MARKS)

8.a (i) Write 8085 assembly language program for 8 bit multiplication of two 8 bit numbers using direct addressing mode. (8)

(OR)

b (i) Write 8086 assembly language program to subtract two 16-bit numbers stored in memory location 5000H – 5001H and 5002H – 5003H. (8)

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D^st Cast
Sem - IV
Microprocessor -

B.S. Abdur Rahman Crescent Institute of Science & Technology
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GED 2202

RRN 2 1 0 1 9 1 6 0 1 0 0 2

CONTINUOUS ASSESSMENT TEST - 1 MARCH 2023

Programme & Branch : B.Tech(Common to all branches)
Semester : IV Date & Session : 13/03/2023 AN
Course Code & Name : GED 2202, Indian Constitution and Human Rights
Duration : 90 Minutes Maximum Marks : 50

ANSWER ALL QUESTIONS

PART A (5 X 2 = 10 MARKS)

1. What is a Constitution?
2. Why is the 42nd amendment act known as the 'mini constitution'?
3. What is the importance of Article 17 of the Constitution of India?
4. What do you understand by overseas citizenship?
5. Define the secularism mentioned in the preamble of the constitution.

PART B (2 X 20 = 40 MARKS)

6.a	(i)	Explain the outstanding features of the Indian Constitution.	**(10)**
	(ii)	Explain the preamble of the Indian constitution and explain the objective of the Indian constitution by analyzing the preamble.	**(10)**
		(OR)	
b	(i)	What do you understand by citizenship? Discuss various modes of acquiring citizenship in India as per the citizenship act 1955.	**(10)**
	(ii)	Briefly explain the history of the Indian constitution. Why is B R Ambedkar known as the principal architect of the Indian constitution?	**(10)**
7.a	(i)	"The Constitution of India protects the honour and dignity of an individual". Critically examines the various Fundamental Rights in light of the above statement.	**(10)**
	(ii)	Enumerate the fundamental duties of Indian citizens.	**(10)**
		(OR)	
b	(i)	"The Directive Principles of State Policy constitute a comprehensive political, social and economic program for a modern democratic welfare State". Examine.	**(10)**
	(ii)	"RTI Act 2005 resulted in the transparency of Governance in India". Explain the objectives of the RTI Act 2005.	**(10)**

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B.S. Abdur Rahman Crescent Institute of Science & Technology

CSD 2205

RRN | 2 | 1 | 0 | 1 | 7 | 1 | 6 | 0 | 1 | 0 | 0 | 2 |

CONTINUOUS ASSESSMENT TEST- 1 MARCH 2023

Programme & Branch	:	B.Tech & CSE,CSE(IoT),&CSE(CS)		
Semester	:	IV	Date & Session	: 10/3/2023 & AN
Course Code & Name	:	CSD 2205 & DATABASE MANGEMENT SYSTEMS		
Duration	:	90 minutes	Maximum Marks	: 50

ANSWER ALL QUESTIONS

PART A (5 X 2 = 10 MARKS)

1. List any four applications of DBMS.
2. Define primary key.
3. Mention any two types of data independence.
4. Enlist four aggregate functions.
5. Write the query for deleting all the rows of a table.

PART B (2 X 16 = 32 MARKS)

6.a (i) Describe the various types of data models with examples. (16)

(OR)

b. (i) Explain the advantages of database system over file system. (4)

(ii) Illustrate the various key constraints in database management system with suitable examples. (12)

7.a (i) Discuss about the different database users involved in DBMS. (8)

(ii) Develop the query with respect to SQL:
- Inner join
- Left and right outer join
- Full Outer Join (8)

(OR)

b. (i) Explain DDL and DML SQL query and also write query for the following employee table EMP(empno , deptno, ename ,salary, designation, joining date, DOB ,city)

- Display employee name and employee number for all employee in an increasing order of salary
- Display employee name and employee number department wise
- Display total salary of all employee
- Display total number of employee department wise
- Display employee name having experience more than 3 years
- Display salary and designation having empno=101and deptno=326. (16)

PART C (1 X 8 = 8 MARKS)

8.a (i) Draw the ER-diagram to design a system for a book publishing company that produces scientific books on various subjects. The books are written by authors who specialize in one particular subject. The company employee editors who not necessarily being specialists in a particular area, each take sole responsibility for editing one or more publications. A publication covers essentially one of the specialist subjects and is normally written by a single author. When writing a particular book, each author works with editor, but may submit another work for publication to be supervised by other editors. To improve their competitiveness, the company tries to employ a variety of authors, more than one author being a specialist in a particular subject. (8)

(OR)

b (i) Consider the following schema:
Suppliers (supid : integer, sname : string, address : string)
Parts (partsid : integer, pname : string, color : string)
Catalog (supid : integer, partsid : integer, cost : real)
The key fields are underlined and domain of each field is listed after the field name

- Find the name of suppliers who supply some red parts.
- Find the supid of suppliers who supply some red or green parts.
- Find the address of suppliers who supply some red part.
- Find the name and address of suppliers who supply some red part and some green part.
- Find the supid of suppliers who supply every part. (8)

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Cat - I
Sem - IV
DBMS.