

Mid term

Modern Programming Languages

Barani Institute of Management Sciences

Mid-Term	Fall Semester 2021
Course Title: Modern Programming Language	Course Code : CS-432
Discipline /Program : BSCS	Total Marks : 12
Time allowed : 1 Hour 15 minutes	Instructor's Name(s): Muhammad Siddique, Sadia Zar, Muhammad Ifthikhar

Q No 1

Write a java program which calculate the sum of two dimensional array of size [3][3] in third array. [3 Marks]

Q No 2

Part (a)

By keeping in mind the concept of string handling, write the general form of replace method which can apply on the string "Turkamanistaaaann" to replace 'a' by 'z' character as an example in given syntax of Java. [1.5 Marks]

Part (b)

Differentiate between the break statements and continue with representable code example? [1.5 Marks]

Q no 3

Part (a)

Write a java program which calculate the volume of box using parametric method by creating four objects. [2 Marks]

Part (b)

Write a java program with class name "A" having five constructors. Also create three copy constructor of each overloaded constructor. [2 Marks]

P.T.O



Part (c)

[2 Marks]

Write the output of the following program.

```
Class Test {
    int a, b, c;
    Test(int i, int j, int k) {
        a = i;
        b = j;
        c = k; }
    void math (Test m) {
        m.a *= 2;
        m.b += 4;
        m.c /= 3 } }
    Test Total() {
        Test sum = new Test(c+50);
        return sum; }
Class Dry_Run {
    public static void main(String args[]) {
        Test obj = new Test (20, 100, 33);
        Test save_value= obj.Total();
        System.out.println("obj.a , obj.b & obj.c First Run values " + obj.a + " " + obj.b + " " + obj.c);
        obj.math(obj);
        System.out.println("obj.a , obj.b & obj.c second Run Values " + obj.a + " " + obj.b + " " + obj.c);
        save_value=obj.Total();
        System.out.println("Value of c in this method is " + save_value.c);
    }
}
```

Webtechnology

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Bscs 7A.

BARANI INSTITUTE OF MANAGEMENT SCIENCES

Mid-Term Exam

Fall Semester 2021

Course Title. Web Technologies	Course Code. CS - 566
Discipline /Program. BSCS	Total Marks. 12
Time Allowed. 1 Hour 15 mins	Instructor's Name. Sumaira Aslam, Asia Shahab.

Answer the following questions.

Q1. Can we insert a Table inside a Form or Form inside a Table? Justify your answer. Also write HTML code to display your class time table. (3)

Q2. Write HTML and CSS code for the table given bellow (e.g. heading, Bold, Italic, align and Background Color). (3)

Name	Registration No	University Name
Ali	Mes12344	CUST
Sara	Mes12345	BIMS
Hina	Mes12678	ARID

Q3. Answer the following. (3)


Consider you are working as a web developer; suggest which language (HTML, CSS, or Both) will be used for the development of online buying and selling website. Also justify your answer.

- Which requirements must be implemented in above scenario?
- Show the card prototype according to specified requirements.
- How many types of style sheets can be used in CSS? Explain each with the help of examples.

Q4. What is difference between GET and POST methods? Also write HTML code to add video and audio in web page. Also apply any two attributes on it. (3)

Good Luck ☺

Q5. Use PHP, JavaScript, JQuery, HTML, CSS or their combination for creating following page. Also, briefly explain the reason for choosing any of these techniques and according to you which one is more helpful to create this webpage. [4]




COMSATS institute of Information Technology

Name
Technical Eng Department
Computer science Department
Physics Department
Library

In this technology pervasive environment, the attainment of higher education is becoming a much sought after goal of the youth of the nation. I am positive that for the academic and research pursuits, COMSATS Institute of Information Technology (CIIT) is the most preferred destination for the best students, teachers, researchers and scholars. Our motto, 'Join the best to bring out the best.' Since its establishment in 2000, the CIIT has always been at the forefront of innovation and has played an active part in shaping the modern day higher education. It has around 25,000 full time students studying a wide range of undergraduate, postgraduate and research degree programs.

By offering a broad range of disciplines the CIIT encompasses the areas that are of real interest to professionals, prospective employers and to you as students. Our institution has more than 3,000 academic and active research staff. Many of our faculty members are academics of world repute and they are doing research at the cutting edge of the respective disciplines. The expertise is reflected in our teaching and has made this institution a credible center of excellence both in quality teaching and research.

Alongside such focus on academic performance, the institute takes pride in the strong links it has established with business and industry, which helps students understand and experience the dynamics of the market place. Our growing international reputation is evident in the prestigious exchange agreements (MoU's) the CIIT holds with some of the best institutions, the notable being the University of Illinois at Urbana-Champaign (U.S.A), Heriot Watt Univ of Technology (UK), University of Essex (UK) and many others.



Good Luck 😊

Final Term

BARANI INSTITUTE OF MANAGEMENT SCIENCES

Final-Term Exam

Fall Semester 2021

Course Title : Cyber Security	Course Code : CS - 597
Discipline /Program : BSCS 7th	Total Marks : 30
Time allowed : 2 hour 30 mins	Instructor's Name : Sumaira Aalam, Dr. Quratulain Alam

Attempt all the questions.

Question # 1. Define CIA (Confidentiality, Integrity, and Authentication) model with an example in Cyber Security. (4)

Question # 2. Let text be 48 bits:

01000100 01000101 01010001 01010101 01000010 01000011

Calculate S-box function in round 1 by using Data Encryption Standard (DES) Algorithm. (6)

Question # 3. Perform RSA Algorithm Encryption and Decryption if $p=23$ and $q=29$. (8)

Question# 4. Perform Advanced Encryption Standard (AES) Algorithm on the following data and calculate round 0 (Addroundkey), Sub byte and shift row and mix column of round 1. (12)

Key: B1 29 3B 33 A5 41 85 92 D2 10 D2 32 C6 42 9B 69

Plain text: E2 32 FC F1 91 12 91 88 B1 59 E4 E6 D6 79 A2 93

Helping Matrices

Table 6.3 S-box 1

	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
0	14	04	13	01	02	15	11	08	03	10	06	12	05	09	00	07
1	00	15	07	04	14	02	13	10	03	06	12	11	09	05	03	08
2	04	01	14	08	13	06	02	11	15	12	09	07	03	10	05	00
3	15	12	08	02	04	09	01	07	05	11	03	14	10	00	06	13

Table 6.4 S-box 2

	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
0	15	01	08	14	06	11	03	04	09	07	02	13	12	00	05	10
1	03	13	04	07	15	02	08	14	12	00	01	10	06	09	11	05
2	00	14	07	11	10	04	13	01	05	08	12	06	09	03	02	15
3	13	08	10	01	03	15	04	02	11	06	07	12	00	05	14	09

Table 6.5 S-box 3

	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
0	10	00	09	14	06	03	15	05	01	13	12	07	11	04	02	08
1	13	07	00	09	03	04	06	10	02	08	05	14	12	11	15	01
2	13	06	04	09	08	15	03	00	11	01	02	12	05	10	14	07
3	01	10	13	00	06	09	08	07	04	15	14	03	11	05	02	12

Table 6.6 S-box 4

	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
0	07	13	14	03	00	6	09	10	1	02	08	05	11	12	04	15
1	13	08	11	05	06	15	00	03	04	07	02	12	01	10	14	09
2	10	06	09	00	12	11	07	13	15	01	03	14	05	02	08	04
3	03	15	00	06	10	01	13	08	09	04	05	11	12	07	02	14

Table 6.7 S-box 5

	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
0	02	12	04	01	07	10	11	06	08	05	03	15	13	00	14	09
1	14	11	02	12	04	07	13	01	05	00	15	10	03	09	08	06
2	04	02	01	11	10	13	07	08	15	09	12	05	06	03	00	14
3	11	08	12	07	01	14	02	13	06	15	00	09	10	04	05	03

Table 6.8 S-box 6

	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
0	12	01	10	15	09	02	06	08	00	13	03	04	14	07	05	11
1	10	15	04	02	07	12	09	05	06	01	13	14	00	11	03	08
2	09	14	15	05	02	08	12	03	07	00	04	10	01	13	11	06
3	04	03	02	12	09	05	15	10	11	14	01	07	10	00	08	13

Table 6.9 S-box 7

	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
0	4	11	2	14	15	00	08	13	03	12	09	07	05	10	06	01
1	13	00	11	07	04	09	01	10	14	03	05	12	02	15	08	06
2	01	04	11	13	12	03	07	14	10	15	06	08	00	05	09	02
3	06	11	13	08	01	04	10	07	09	05	00	15	14	02	03	12

Table 6.10 S-box 8

	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
0	13	02	08	04	06	15	11	01	10	09	03	14	05	00	12	07
1	01	15	13	08	10	03	07	04	12	05	06	11	10	14	09	02
2	07	11	04	01	09	12	14	02	00	06	10	10	15	03	05	08
3	02	01	14	07	04	10	8	13	15	12	09	09	03	05	06	11

AES S-Box Lookup Table

	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
0	63	7C	77	7B	F2	6B	6E	C5	30	01	67	2B	FE	D7	AB	76
1	CA	82	C9	7D	FA	59	47	F0	AD	D4	A2	AF	9C	A4	72	C8
2	B7	FD	93	26	36	3F	F7	CC	34	A5	E5	F1	71	D8	31	15
3	04	C7	23	C3	18	96	05	9A	07	12	80	E2	EB	27	B2	75
4	09	83	2C	1A	1B	6E	5A	A0	52	3B	D6	B3	29	E3	2F	84
5	53	D1	00	ED	20	FC	B1	5B	6A	CB	BE	39	4A	4C	58	CF
6	D0	EF	AA	FB	43	4D	33	85	45	F9	02	7F	50	3C	9F	AB
7	51	A3	40	8F	92	9D	38	F5	BC	B6	DA	21	10	FF	F3	D2
8	CD	0C	13	EC	5F	97	44	17	C4	A7	7E	3D	64	5D	19	73
9	60	81	4F	DC	22	2A	90	88	46	EE	B8	14	DE	5E	0B	DB
A	E0	32	3A	0A	49	06	24	5C	C2	D3	AC	62	91	95	E4	79
B	E7	C8	37	6D	8D	D5	4E	A9	6C	56	F4	EA	65	7A	AE	08
C	BA	78	25	2E	1C	A6	B4	C6	E8	DD	74	1F	4B	BD	8B	8A
D	70	3E	B5	66	48	03	F6	0E	61	35	57	B9	86	C1	1D	9E
E	E1	F8	98	11	69	D9	8E	94	9B	1E	87	E9	CE	55	28	DF
F	8C	A1	89	0D	BF	E6	42	68	41	99	2D	0F	B0	54	BB	16

Webtechnology

**INSTITUTE OF MANAGEMENT
SCIENCES**

Final-Term Exam Fall 2021 (Theory)

Course Title: Web Technologies	Course Code: CS-566
Discipline /Program : BSCS 7A/B	Total Marks : 20
Time allowed : 2 Hours 30 minutes	Instructor: Ms. Asia Shahab

Answer the following questions.

Q1. Suppose we have the following table named "tblStudents (StudentID, StudentName, RegNo, CGPA)" in the database named db_Uog_Student. Your task is to code in PHP to MySQL for the following. [4]

- Add new Student record to database, Student Name, Registration No and CGPA.
- Display all Students records from tblStudents.
- Delete any two Students records from tblStudents.

Q2. Answer the following. [4]

- What is the structure of HTML document? Do all HTML tags have an end tag? How to create a hyperlink in HTML? Explain visited and active links.
- Can you use CSS in JavaScript? Justify your answer. How Id and class attribute can be used in HTML by using JavaScript?

Q3. Answer the following. [4]

- How JavaScript is different from HTML? And how JavaScript is added in HTML?
- Do you think JavaScript is better than HTML? Justify your answer.

Q4. Highlight the errors and correct the syntax of following example (JavaScript). Explain its working in your own words (max 2 to 3 lines). [4]

```
<script language="javascript">
func con)
var name=prmt("Your name");
if (cnfrm("write on the webpage ?"))
alert("Welcome Ms/ Mr. " + name);
else
document.new ("Welcome");
```


BARANI INSTITUTE OF MANAGEMENT **SCIENCES**

Final-Term Exam Fall 2021 (Practical)

Course Title: Web Technologies	Course Code: CS-566
Discipline /Program : BSCS 7 th	Total Marks : 20
Time allowed: 30 Minutes	Instructor's: Ms. Asia Shahab

Answer the following questions.

Q1. Create a table named as "registration" in MySQL database which contains columns listed below: [10]

- Registration No.
 - Full Name
 - Contact No
 - University Name
- a. Insert three new records in the table.
b. Delete two records.

Q2. Use PHP, JavaScript, JQuery, HTML, CSS or their combination for creating following data entry form. Also, briefly explain the reason for choosing any of these techniques and according to you which one is more helpful to create this form. [10]

Request Form

Full Name

First name: Last name:

Email:

University Name: Department:

Languages Known:

- ☐ HTML
☐ JAVASCRIPT
☐ PHP

(Good Luck) ☺

PDC

BARANI INSTITUTE OF MANAGEMEN SCIENCES

Final-Term (Theory)

Fall Semester 2021

Course Title: Parallel and Distributed Computing	Course Code: CS-687
Discipline /Program: BSCS 7 A/B/C/D	Total Marks: 20
Time allowed: 2 hours	Instructor's Name: Sadia Zar

Question No.1

[5]

- List down the various parameters used for evaluating the static interconnection Network.
- Compare the Multistage and Crossbar Network Configuration

Question No.2:

[5]

- Define the Flynn's Taxonomy. Describe the four classes proposed by Flynn's taxonomy.
- What are the advantages of the Parallel Computing?

Question No.3:

[4]

Draw a Model showing the shared memory model for parallel computing.

Question No.4:

[4+ 2]

- Define the PRAM Semantics. What are the four common protocols used in PRAM Semantics?
- Take values of length and breadth of a rectangle from user and check if it is square or not.

BARANI INSTITUTE OF MANAGEMEN SCIENCES

Final-Term (Practical)

Fall Semester 2021

Course Title: Parallel and Distributed Computing	Course Code: CS-687
Discipline /Program: BSCS 7 A/B/C/D	Total Marks: 20
Time allowed: 30 minutes	Instructor's Name: Sadia Zar

Question No. 1

[10]

Explain your semester project.

[10]

Question No. 2

Consider an Array showing the No of Subjects enrolled by BS Students {4, 9, 1, 7, 8, 11, 2, 12}. Draw the task-dependency graph and task-interaction graph for finding the student with the minimum number of courses enrolled in the list.