

05/09/19

Shift 2nd

250x2

Al-Falah University, Faridabad

Department of Mathematics

Sessional Test-I

Department: Mathematics

Semester: B.tech (V) All Branches

Subject: NMOT(MAT-301)

Date:

Maximum Marks: 30

Time: 1.15 hrs

Note: Question no. 1 is compulsory and attempt only one question from section A & section B.

Q-1(i) A matrix is said to be upper triangular if

(5*2=10)

- (a) $a_{ij} = 0 \forall i > j$ (b) $a_{ij} = 0 \forall i = j$
(c) $a_{ij} = 0 \forall i < j$ (d) None of these

(ii) Define Transcendental equation and give an example of such equation. Also find a range of root by intermediate value property on it.

(iii) Which of the following is fundamental operator

- (a) Averaging operator (b) shift operator
(c) forward difference operator (d) Central difference operator

(iv) For unequally spaced values of data to interpolate the value we use

- (a) Newton forward interpolation (b) Newton backward interpolation
(c) Lagrange's interpolation (d) none of these

(v) Write normal equation to fit a parabola $y = ax^2 + bx + c$.

Section-A

Q-2. Using Newton Raphson method, find a root of $3x^3 - 9x^2 + 8 = 0$ correct to three decimal places. (10)



AL-FALAH UNIVERSITY

A University of Institution Accredited with grade 'A'- NAAC(UGC)Dhauj,
Faridabad

Sessional-I
COURSE: B.Tech.

Department : EECE
Subject : Microprocessor And Interfacing
Branch : (EEE + CSE)
Time : 75 Mins.Max

Sem: 5TH
Date: 5-09-2019
Sem.Shift:
Mark:30

Shift-I

NOTE: Question No (1) is compulsory and attempt any two questions from section A & B selecting one question from each section.

Q (1) :- (a) Write an assembly language program for 8085 microprocessor to add two 16 bit numbers. (4)

(b) Write an assembly language program for 8085 microprocessors to Multiply two 8 bit numbers. (6)

Section- A

Q (2):- Draw the block diagram of 8085 microprocessor. Explain the function of each block. (10)

Q (3):- Draw the PIN diagram of 8085 microprocessor. Explain the function of each pin (10)

Section -B

Q (4):- (a) Explain the addressing mode supported by the 8085 microprocessor. Give example for each (5)

(b) Explain the significance of the following instructions of 8085 : (5)

(i) LHLD address

(ii) MOV M, B

(iii) CMC

(iv) DAA

(v) LXI B, 2000 H

Q (5):- Draw the block diagram of 8086 microprocessor. Explain the function of each block. (10)



AL-FALAH UNIVERSITY

(Faridabad, Haryana-121004)

1st Sessional Test COURSE: B. TECH.

Department : Computer Science & Engineering
Subject : core Java
Branch : B.Tech CSE
Time : 75 Minutes

Sem : 5th
Date : 31/9/19
Time : 1st shift
Max Marks: 30

NOTE: Question No. 1 is compulsory and attempts any two questions from section A & B selecting one question from each.

Que-1: Select the best Objective answers with proper explanation.

2*5

- 1.1. What would be behaviour if constructor has a return type?
- a) Compilation error
 - b) Runtime error
 - c) Compilation and runs successfully
 - d) Only String return type is allowed
- 1.2 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;
- 1.3 Which of these is not a correct statement?
- a) Every class containing abstract method must be declared abstract
 - b) Abstract class defines only the structure of the class not its implementation
 - c) Abstract class can be initiated by new operator
 - d) Abstract class can be inherited
- 1.4 Which of these is an incorrect array declaration?
- a) int arr[] = new int[5].
 - b) int [] arr = new int[5].
 - c) int arr[] = new int[5].
 - d) int arr[] = int [5] new.
- 1.5 Which of the following is not OOPS concept in Java?
- a) Inheritance
 - b) Encapsulation
 - c) Polymorphism
 - d) Compilation

Section - A

Qns 2 . Explain the concepts of Abstraction, Encapsulation, Data hiding. 10

Qns 3 Write a program of constructor overloading in java. 10

Section - B

Q.4 Explain the difference between Method overloading and Method overriding. 10

Q.5 Explain the concept of Abstract class. What is the difference between Abstract class and Interface? 10



AL-FALAH UNIVERSITY

Department of Computer Science & Engineering

1st Sessional Test (B.Tech CSE) CG and Multimedia Tech.

Time : 75 Mints

Semester: 5th

Date - 3/9/19

2nd shift

Note* - Attempt three question in all .At least one question from each section. Question -1 is compulsory

- Q. 1 (i) Stereoscopic systems.
(ii) Color CRT Monitors.
(iii) Applications of multimedia.

3

3

4

Section-A

- Q. 2- Explain framework for multimedia systems.
Q. 3- Explain defining objects for multimedia systems.

10

10

Section-B

- Q. 4- Explain multimedia authoring tools in detail.
Q.5- Explain Raster scan systems and Random scan systems.

10

10



Department : Computer Science & Engineering
Subject : Theory of Automata & Computation
Branch : CSE
Time : 75 Minutes ()

Sem : 5th
Date : 9/9/19
Shift : 1st shift
Max Marks : 30

NOTE: Question No. 1 is compulsory and attempts any two questions from section A & B selecting one question from each section.

Que-1: Attempt the followings (Five questions)

- Moore Machine is an application of:
 - Finite automata without input
 - Finite automata with output –
 - Non- Finite automata with output
 - None of the mentioned
- In Moore machine, output is produced over the change of:
 - transitions
 - states

- Both ✓
- None of the mentioned

3. Which of the following is a correct statement?

- Moore machine has no accepting states
- Mealy machine has accepting states –
- We can convert Mealy to Moore but not vice versa
- All of the mentioned

(3, 3, 4=10)

Section – A

Qns 2 Design a Finite Automata which accepts set of strings containing exactly four 0's in every string over alphabet $\Sigma=\{0, 1\}$. 10

Qns 3 Design FA for the language $L = \{(0)^i 1^k \text{ where } i, k \geq 1\}$. 10

Section – B

Qns 4 Convert the following NFA to DFA. 10

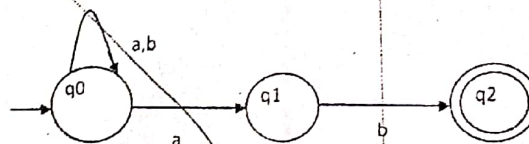


Figure 1

Qns 5 Convert the following Mealy machine in to Moore machine.

State/Input	Input=0		Input=1	
	Next State	Output	Next State	Output
q0	q1	0	q2	1
q1	q1	0	q2	1
q2	q1	1	q2	0



AI-FALAH UNIVERSITY

Department of Computer Science & Engineering

1st Sessional Test

COURSE: B.Tech

Department : Computer Science & Engineering
 Subject : Python and Machine Learning
 Branch : CSE
 Time : 75 Minutes

Sem: 5th

Date: 9/9/2019

Time: 2:00-3:15

MaxMarks:30

NOTE: Question No. 1 is compulsory and attempts any two questions from section A & B selecting one question from each section.

- Q:1. 1. Is Python case sensitive when dealing with identifiers?
 a) yes b) no c) machine dependent d) none of the mentioned
2. What is the maximum possible length of an identifier?
 a) 31 characters b) 63 characters c) 79 characters d) none of the mentioned
3. Which of the following is invalid?
 a) `_a = 1` b) `__a = 1` c) `__str__ = 1` d) none of the mentioned
4. Which of the following is an invalid variable?
 a) `my_string_1` b) `1st_string` c) `foo` d) `_`
5. Which of the following is not a keyword?
 a) `eval` b) `assert` c) `nonlocal` d) `pass`
6. All keywords in Python are in
 a) lower case b) UPPER CASE c) Capitalized d) None of the mentioned
7. Which of the following is true for variable names in Python?
 a) unlimited length b) all private members must have leading and trailing underscores
 c) underscore and ampersand are the only two special characters allowed d) none of the mentioned.
8. Which of the following is an invalid statement?
 a) `abc = 1,000,000` b) `a b c = 1000 2000 3000` c) `a,b,c = 1000, 2000, 3000` d) `a_b_c = 1,000,000`
9. Which of the following cannot be a variable?
 a) `__init__` b) `in` c) `it` d) `on`
10. Which of these is not a core data type?
 a) Lists b) Dictionary c) Tuples d) Class

Section - A

- Q: 2 Explain data types in Python with examples. 10
- Q: 3 a. Write a program to find number of words in the string. 05
 b. Write a program to find the sum of the given number. 05

Section - B

- Q: 4 Explain the following:
 a. Interactive Mode 10
 b. Script Mode
- Q: 5 What is the control structures in python ? Discuss the python Loops in detail. 10

COURSE: B.Tech

Department : Computer Science & Engineering
Subject : Theory of Automata & Computation
Branch : CSE
Time : 75 Minutes ()

Sem : 5th
Date : 14/10/19
Shift : 1st shift
Max Marks : 30

NOTE: Question No. 1 is compulsory and attempts any two questions from section A & B selecting one question from each section.

Que-1: Attempt the followings (Five questions)

(3, 3, 4=10)

1. A language is regular if and only if

- ☒ a) accepted by DFA
- ☐ b) accepted by PDA
- ☐ c) accepted by LBA
- ☐ d) accepted by Turing machine

2. Regular expression $\{0,1\}$ is equivalent to

- ☒ a) $0 \cup 1$
- ☐ b) $0/1$

c) $0 + 1$

d) All of the mentioned

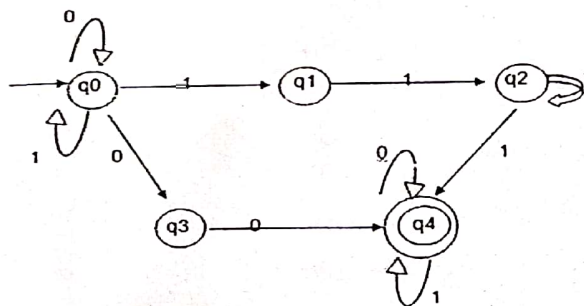
3. Regular expression are

- ☐ a) Type 0 language
- ☒ b) Type 1 language
- ☐ c) Type 2 language
- ☐ d) Type 3 language

Section – A

Qns 2 Find the automata for the regular expression a. $(a + b)^*$. b. b.

Qns 3 Construct the DFA equivalent to NFA given under:



Section – B

Qns 4 Convert the regular expression $(0 + 1)^* 1 (0 + 1)$ to the equivalent non deterministic finite automata. 10

Qns 5 What are regular expressions? Explain the rules for building regular expression. 10



AL-FALAH UNIVERSITY

Dhauj Faridabad Haryana 121004
2nd Sesslonal Test (OCT - 2019)

COURSE: B. TECH.

Department : CSE
Subject : Python Prog. And Machine Learning
Branch : CSE
Time : 75 Mins.

Sem : 6th
Date : 14/09/19
Shift : 2nd shift
Max Marks : 30

NOTE: Question No. 1 is compulsory and attempt any two questions from section A & B selecting one question from each.

5X2

Q1. Discuss the any two of the following:

- a. Validation dataset
- b. Encapsulation
- c. Inheritance

Section A

Q2. Explain the difference between local and global Variables with Examples.

10

Q3. Discuss functions in python. Explain Recursion..

10

Section B

Q4. Explain Learning systems in details. What is the difference between Training data and Test dataset in machine learning

10

Q5. Write Short notes on any Two

10

- a. Python Database.
- b. Searching Algorithms.
- c. Applications of machine learning.



AL-FALAH UNIVERSITY

Dhauj Faridabad Haryana 121004
IInd Sessional Test Oct 2019

(BEE + CSE)

Shift - 1

60

COURSE: B.Tech.

Department : Electrical & electronics engg.
Subject : Microprocessor And Interfacing
Branch : EECE + CSE
Time : 75 Mins.

Sem : 5th
Date : 10/10/19
Shift : I
Max.Marks : 30

NOTE: Question No. 1 is compulsory and attempt any two questions from section A & B selecting one question from each.

1. Write an assembly language program for 8085 microprocessor to find the largest number in 8 numbers data. (10)

Section - A

2. Draw the block diagram of 8086 microprocessors. Explain the function of each block (10)
3. Draw the pin diagram of 8086 microprocessors. Explain the function of each pin. (10)

EM/F

Section - A

4. Explain the addressing mode supported by 8086 microprocessors. (10)
5. What is instruction? Explain all instruction belongs to data transfer group for 8086 microprocessors. (10)

DFW



AL-FALAH UNIVERSITY

2nd Sessional Test

35

COURSE: B.Tech 5th Sem

Department : Computer Science & Engineering
Subject : Computer Graphics and Multimedia
Branch : CSE
Time : 75 Minutes

Sem : 5th
Date : 7/10/19
Shift : 2nd shift
Max Marks : 30

NOTE: Question No. 1 is compulsory and attempts any two questions from section A & B selecting one question from each section.

Que-1: State True/False.

- a) Rotation is not an example of translation. ✓
- b) Windows and view port screens are different. ✓
- c) Projection is a process of two dimension object. ✓

3

3

4

Section – A

Qns-2 Derive the derivation for Digital Differential analyser algorithm with example. ✓

10

Qns-3 Explain any two techniques of transformation.

10

Section – B

Qns-4 Why Scaling transformation is used to magnify object? Explain in brief.

10

Qns-5 What is projection? Explain parallel & Perspective projection.

10

$$y_2 = x_1 \sin \theta - y_2 \cos \theta$$

$$\begin{pmatrix} \cos \theta & -\sin \theta & 0 \\ \sin \theta & \cos \theta & 0 \\ 0 & 0 & 1 \end{pmatrix}$$



AL-FALAH UNIVERSITY

(Faridabad, Haryana-121004)

35

2nd Sessional Test

COURSE: B. TECH.

Department : Computer Science & Engineering
Subject : core Java
Branch : B.Tech CSE
Time : 75 Minutes

Sem : 5th
Date : 7/10/19
Time : 1st shift
Max Marks: 30

NOTE: Question No. 1 is compulsory and attempts any two questions from section A & B selecting one question from each.

Que-1: Select the best Objective answers with proper explanation.

2*5

```
1.1. import java.awt.*;  
import java.applet.*;  
public class myapplet extends Applet  
{  
    public void paint(Graphics g)  
    {  
        g.drawString("A Simple Applet", 20, 20);  
    }  
}
```

1.2 Implement the Listener interface and overrides its methods is required to perform in event handling

- a. True
- b. False

1.3 Give the abbreviation of AWT?

- a. Applet Windowing Toolkit
- b. Abstract Windowing Toolkit
- c. Absolute Windowing Toolkit
- d. None of the above

1.4 When does Exceptions in Java arises in code sequence?

- a) Run Time
- b) Compilation Time
- c) Can Occur Any Time
- d) None of the mentioned

1.5 class exception_handling

```
{  
    public static void main(String args[])  
    {  
        try  
        {  
            System.out.print("Hello" + " " + 1 / 0);  
        }  
        catch(ArithmeticException e)  
        {  
            System.out.print("World");  
        }  
    }  
}
```

- a) Hello
- b) World
- c) HelloWorld
- d) Hello World

Section -- A

Qns 2 . Explain the difference between AWT and Swing.

10

Qns 3 Write a program to demonstrate throw and throws keywords in java.

10

Section -- B

Q.4 Explain the life cycle methods of applet with example.

10

Q.5 write a program to add two numbers using awt.

10



AL-FALAH UNIVERSITY

10/10/19
Shift - 2

260 x 2

Sessional Test -II

Department: Mathematics

Subject: NMOT

Subject Code: MAT-301

Semester: Vth (B.Tech.-All branches)

Time: 1.15 hrs

Maximum Marks: 30

Note: Attempt any three questions in all selecting one question from each section. Question No. 1 is compulsory.

Q 1 (a) If time and distance are given, then to find acceleration we use

- ☒ (i) Numerical Differentiation of order 1 (ii) Numerical Differentiation of order 2
 (iii) Numerical integration (iv) None of these

(b) A function of one variable $f(x)$ is said to have Global minimum at $x=x^*$ if (2)

- ☒ (i) $f(x^*) \geq f(x)$, for all x ☒ (ii) $f(x^*) \geq f(x^*+h)$, for all x (iii) $f(x^*) \leq f(x)$ for all x (iv) all of these

(c) In Fibonacci method $\frac{1}{F_6}$ is equal to (2)

- (i) 0.125 (ii) 13 ☒ (iii) 0.076923 (iv) none of these

(d) The value of γ in Golden Section Method is (2)

- (i) $\frac{L_0}{(1.618)^2}$ ☒ (ii) $0.382L_0$ (iii) both (i) & (ii) (iv) none of these

(e) In applying Simpson's $\frac{1}{3}$ rule for numerical integration the number of sub intervals (2)

must be a multiple of

- ☒ (i) 2 (ii) 3 (iii) 4 (iv) none of these

Section-A

Q2 (i) Find $\int_0^1 \frac{1}{1+x^2} dx$ using Simpson's $3/8^{\text{th}}$ rule taking $h=1/6$ (10)

(ii) Find the value of $\cos(1.82)$ from the following table (10)