CSE

MID SEM

6th Semester Papers

2021-22

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HARCOURT BUTLER TECHNICAL UNIVERSITY, KANPUR

MID SEMESTER EXAMINATION 2021-22

Entrepreneurship Development(HHS-352)

B.Tech 3rd year (ET/CE/EE/ME/CSE/IT)

TOTAL MARKS – 30 **TIME: 1:30 hr.**

1. How ideation is related to entrepreneurship? Enumerate different phases of entrepreneurial process. [7.5]
2. Critically examine Schumpeter's thought in comparison to Drucker's with respect to entrepreneurship. [7.5]
3. Define MSMEs? Briefly explain about the significance of MSME in India. [7.5]
4. Evaluate Sole-Proprietorship as form of business ownership. [7.5]

Harcourt Butler Technical University, Kanpur

B.Tech CSE (3rd Year)
Mid Term Exam (Even Semester), 2021-22
Object Oriented System (ECS- 354)

TIME: 1Hr 30 Min **MM: 15**

NOTE: ATTEMPT ALL QUESTIONS.

Q1. What do you understand by Object Oriented Design. **[3]**

Q2. Differentiate between Designing and modelling. **[3]**

Q3. Write different principles of modelling. **[3]**

Q4. Explain the OOPS Concept. **[3]**

Q5. Define UML and explain the concept of **things** in UML building blocks. **[3]**

1st MID SEMESTER EXAMINATION 2021-22

III (CSE +IT)

Computer Graphics (ECS-356)

Time: 90 Min. MM: 30

Note: Attempt All Questions.

Q.1: Derive midpoint ellipse algorithm. (10)

Q.2: What is polygon fill? Name the various fill algorithms. Explain scan-line polygon fill algorithm. (10)

Q.3: Find out final transformation matrix, when point P (x, y) is to be reflected about a line

$$y = mx + c$$ (10)

III B. Tech. (CSE+IT), II Semester, 2021-22

Network Security (ECS-362)

I Class Test

Time : 1 Hr 30 Mins. Max Marks : 30

Note : Attempt all questions.

1. Describe all steps encryption and decryption in S-DES with appropriate example. (5)

2. Describe security services, mechanisms and attacks. State X.800 standards. (5)

3. (I) How encryption and decryption are performed in playfair cipher? Explain with suitable example. (5)

   (II) Differentiate mono alphabetic and poly alphabetic ciphers with example.

4. Perform encryption and decryption using RSA algorithm – (5)
   P=5, q=11, e=3, m=9.

5. Explain various modes of operation with the help of suitable diagrams. How do they cater to different types of applications? (5)

6. Explain distribution of private key using symmetric key cryptography. (5)

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EVEN SEM, I MID SEM EXAM, 2021-22
COMPILER DESIGN (ECS- 352)
CLASS – III CSE/IT (B.Tech)

TIME:1.5 hr **MAX MARKS:30**

Note: Attempt all questions .

1. Explain all the phases of compiler in brief. [5]
2. Explain the Context-Free Grammar with example. Also state the difference between Left Most derivation and Right most derivation with proper grammar example. [5]
3. Write a Short note on LEX compiler and Bootstrap compiler. [5]
4. What do you understand by parsing? Name the types of parser. Also state the comparison between Top-Down parser and Bottom-Up parser. [3]
5. Perform the following operations as asked in the questions.
   i) Find no of tokens in below program. [1]

```
#include<stdio.h>
main()
{
int i;
 int *pi = &i; //parent pointer
scanf("%d",pi);
printf("%d\n", i+5);
}
```

   ii) Consider the following grammar and eliminate left recursion. [2]
   $E \rightarrow E + T / T$
   $T \rightarrow T \times F / F$
   $F \rightarrow id$
   iii) Do left factoring in the following grammar. [2]
   $S \rightarrow aAd / aB$
   $A \rightarrow a / ab$
   $B \rightarrow ccd / ddc$
   iv) Calculate the first and follow functions for the given grammar. [2]
   $S \rightarrow (L) / a$
   $L \rightarrow SL'$
   $L' \rightarrow ,SL' / \in$
   v) Convert the following ambiguous grammar into unambiguous grammar. [2]
   $R \rightarrow R + R / R . R / R^* / a / b$
   where * is kleen closure and . is concatenation.
6. Explain whether the given grammar is LL(1). [3]
   S -> A | a
   A -> a
   OR
   Design a FA from given regular expression 10 + (0 + 11)0* 1.

****** All The Best******

Harcourt Butler Technical University, Kanpur

B.Tech CS/ IT (3rd year)
Mid Term Exam (Even Semester), 2021-22
Soft Computing (ECS-358)

TIME: 1Hr 30 Min **MM: 30**

NOTE: ATTEMPT ALL QUESTIONS.

Q1. What is soft computing? Differentiate between Hard & Soft computing. **[5]**

Q2. Define Knowledge based System. What are different types of knowledge? **[5]**

Q3. Define fuzzy, crisp and rough set with an example. **[5]**

Q4. Explain characteristic behaviour of intelligent systems. **[5]**

Q5. Explain different types of operations performed on fuzzy sets by taking an example of each. **[5]**

Q6. Define fuzzy interference systems. And explain if-then rule. **[5]**

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Mid Semester Exam 2021-22
Internet of Things (ECS-360)
Third Year CS +IT

Time: 90 minutes **Max Marks [30]**

Q.1. Explain in detail the term Internet of Things. What are the main characteristics of the Internet of things also write the advantage and disadvantage. [5]

Q2. What are the key features of M2M. Explain the architecture and component of M2M [5]

Q3. Explain the following protocols for IOT – a) 802.3 b) 802.16 c) TCP d) CoAP e) Websocket [5]

Q4. What do you mean by sensors ? What are the key specification of sensor ? Explain in brief four different type of sensor. [5]

Q5. Explain the platform middleware for M2M in detail with suitable block diagram. [5]

Q6. Write Notes on- a) Reset based communication API b) Web Socket based communication API. [5]