Enrollment no._____

Sardar Vallabhbhai Patel Institute of Technology, Vasad
Computer Engineering Department
Mid Semester Exam
B.E. Computer Engineering - Sem. VII

Subject: - Compiler Design (2170701) **Date: 11-09-2018**
Max. Marks: - 40 **Duration:-90min.**
Instruction:

- All questions are compulsory
- Make suitable assumptions and draw neat figures wherever required.
- Figures to the right indicate marks.

Q -1 **Answer the following :**

a) Draw diagram for phases of Compiler. Also explain each Phase in brief. **[05]**

b) Explain input buffering techniques. **[03]**

[12]

Q-2 **Attempt the following::**

a) Construct the SLR parsing table for the following grammar:

E -> E+T
E -> T
T -> T*F
T -> F
F -> (E)
F -> id

b) Find out First and Follow and construct LL (1) parsing table for the following grammar and also state whether the grammar is LL (1) or not.

S -> aBDh
B -> cC
C -> bC | ∈
D -> GF
G -> g | ∈
F -> f | ∈

OR

Q-2 **Attempt the following::** **[12]**

a) Construct the LALR parsing table for the following augmented grammar :

S '-> S
S -> CC
C -> cC | d

b) Construct the LR parsing table for the following grammar :

$S \rightarrow L = R$

$S \rightarrow R$

$L \rightarrow * R$

$L \rightarrow$ id

$R \rightarrow L$

Q-3 Attempt the following:: [10]

a) Give following definitions:

a. suffix **b.** prefix **c.** substring **d.** proper prefix, suffix and substring **e.** subsequence

b) Define Left Recursion. Eliminate Left Recursion from the grammar.

S→Aa/b

A →Ac/Sd/e

OR

Q-3 Attempt from the following:: [10]

a) Explain the following terms:

a)Parse tree **b)** Ambiguity **c)** Lexeme **d)** Token **e)** Pattern **f)** Complier

b) Define Left Recursion. Eliminate Left Recursion from the grammar.

$A \rightarrow B\ C \mid a$

$B \rightarrow C\ A \mid A\ b$

$C \rightarrow A\ B \mid C\ C \mid a$

Q-4 Attempt any <u>two</u> from the following:: [10]

a) What is intermediate code? What is its importance? Convert the following statement into three address code, triple, indirect triple and quadruple forms.

a=(a * b) + (c + d) - (a + b + c + d)

b) List all and Explain(any two) code optimization techniques with example.

c) Explain peephole optimization and its characteristics.

*****ALL THE BEST *****

Sardar Vallabhbhai Patel Institute of Technology, Vasad
First Internal Examination Sep 2018
LYCE Sem-VII(CE)

Subject Name: Information And Network Security **Subject Code: 2170709**
Date: 14/09/2018 **Time: 2:30 pm to 4:00 pm**
Instructions: **Total Marks: 40**

1. **Attempt all questions.**
2. **Make Suitable assumptions wherever necessary.**
3. **Figure to the right indicate full marks.**

Q-1 a) Define Cryptography and Cryptanalysis. Draw and explain Conventional Cryptosystem. **06**

b) Define Following Terms: **03**
1) Data Confidentiality 2) Data Authentication 3) Data Integrity

Q-2 a) Define the terms diffusion and confusion. What is the purpose of S-box in DES? Explain the avalanche effect in DES. **07**

Or

a) Explain Byte Substitution and Shift row operation Of AES in Detail. **07**

b) List Out various application of Digital Signature. **03**

Q-3 a) 1) Use PlayFair algorithm with the key "monarchy" and encrypt the text "jazz" **04**

2) Explain CBC block cipher mode of operation. **03**

Or

a) 1) Encrypt the message "Exam" using the Hill Cipher with the key **04**

$$\begin{bmatrix} 9 & 4 \\ 5 & 7 \end{bmatrix}$$

2) Explain CFB block cipher mode of operation. **03**

	b)	Explain Encryption and Decryption in RSA algorithm. Also Discuss various attacks on RSA.	07
		Or	
	b)	Explain the operation of secure hash algorithm on 512 bit block.	07
Q-4	**a)**	What is KDC? With the help of Diagram explain how KDC do key Distribution.	07
		Or	
	a)	List and Explain various types of attacks.	07

Sardar Vallabhbhai Patel Institute of Technology, Vasad

Mid Semester Exam- 2018

BE - 7th Semester Computer Engineering Department

Subject Name: Mobile Computing and Wireless Communication **Total Marks: 40**
Subject Code: 2170710 **Time: 1:30 Hrs.**

Q.1 Describe the Switching Techniques. Differentiate the Circuit Switching and Packet Switching. **08**

Q.2 What is Direct Sequence Spread Spectrum technology? How does it work in CDMA technology? **08**

OR

What is Mobile IP? Explain Discovery, Registration and Tunnelling with Mobile IP **08**

Q.3 Draw and Explain GSM Architecture with roles of its components **08**

OR

What is handoff? Explain its various types and How it handles in cellular Architecture using different strategies? **08**

Q.4 Let us Consider an example that relates that Nyquist and Shannon formulations. Suppose that the spectrum of a channel is between 3 MHz and 4 MHz and SNR_{db} = 24 dB. So, how many signalling levels are required? **08**

OR

Explain Nyquist theorem? Find the relationship among Channel Capacity(C), Bandwidth (B) and Signal to Noise Ratio (SNR). **08**

Q.5 What is android Runtime? Explain Dalvik Virtual Machine. Give the difference between JVM and DVM? **08**

OR

Draw and Explain Android Architecture in Detail. **08**

All the Best

SARDAR VALLABHBHAI PATEL INSTITUTE OF TECHNOLOGY
COMPUTER DEPARTMENT
MID SEMESTER EXAM -2018-19 (7th SEMESTER)

Subject: Data Mining and Business Intelligence **Subject Code : 2170715**
Date: 15 /09/18 **Total Marks : 40**

Q.1 (A)	What is OLAP Operations. List out operation and explain any two operations in detail.	[05]
Q.1 (B)	Difference between OLAP vs OLTP	[04]
Q.1 (C)	Suppose that a data warehouse consists of the three dimensions time, doctor and patient and the two measures count and charge where charge is the fee that a doctor charges a patient for a visit. Draw star schema .	[03]
Q.2	Explain DW architecture with suitable diagram.	[07]
	OR	
Q.2	Why naïve Bayesian classification is called "naïve"? Briefly outline the major idea of naïve Bayesian classification.	[07]
Q.3	Explain KDD Process	[07]
	OR	
Q.3	What is data cleaning? How to handle the missing values in data mining.	[07]
Q.4	Use these methods to *normalize* the following group of data: 200, 300, 400, 600, 1000 (a) min-max normalization by setting $min = 0$ and $max = 1$ (b) z-score normalization	[07]
	OR	
Q:4	Explain the Apriori algorithm. Also explain how the association rules are generated from frequent item sets.	[07]
Q:5	Find the frequent item sets in the following database of 4 transactions. with the minimum support 50% and confidence 50% . List out the Final Rules.	[07]

Transaction ID	Items Bought
100	A,B,C
200	A,C
300	A,D
400	B,E,F

OR

Q:5	Using Naïve Bayesian classification on the following given training set, classify the unseen tuple (Refund= No, Married, income=~~1K~~ 120 K)	[07]

RID	Refund	Marital Status	Taxable	Evade
1	Yes	Single	125K	No
2	No	Married	100K	No
3	No	Single	120K	No
4	Yes	Married	70K	No
5	No	Divorced	95K	Yes
6	No	Married	60K	No
7	Yes	Divorced	220K	No
8	No	Single	85K	Yes
9	No	Married	75K	No
10	No	Single	90K	Yes

ALL THE BEST