

Subject: Compilers Design

Duration: 1.5 Hrs.

Note:

1. All questions are compulsory.
2. All questions carry marks as indicated.

Que No.

Questions

Mark CO BL

- 1(a) 1) Which is not true about syntax and semantic parts of a computer language?
a) Semantics is checked mechanically by a computer
b) Semantics is the responsibility of the programmer
c) All of the mentioned d) None of the mentioned

2 3

2) What is the postfix expression for the corresponding infix expression?
 $a+b*c+(d*e)$

- a) $abc*+de*+$ b) $abc+*de*+$ c) $a+bc*de*+$ d) $abc*+(de)*+$

5 3 2

- (b) What do you mean by SDTS. Explain with example.

7 3 2

- (c) Translate given expression into TAC

if $x < y$ then $a = b + c$ else $p = q + r$

OR

- 2(a) 1) An intermediate code form is _____
a) Postfix notation b) Syntax Trees c) Three Address code d) All of the mentioned

2 3

2) Inherited attribute is a natural choice in _____

- a) Tracking declaration of a variable b) Correct use of L and R values
c) All of the mentioned d) None of the mentioned

1

- (b) Define Attribute. Explain different types of attributes.

5 3 2

- (c) Translate the expression

$A = -B * (C + D)/E$

7 3 2

- 3(a) 1) Peep-hole optimization is a form of
a) loop optimization b) local optimization c) constant folding d) data flow analysis

1

2) An optimizing compiler

2 4

- a) is optimized to occupy less space
b) is optimized to take less time for execution
c) optimizes the code d) All of the above

- (b) Write a note on

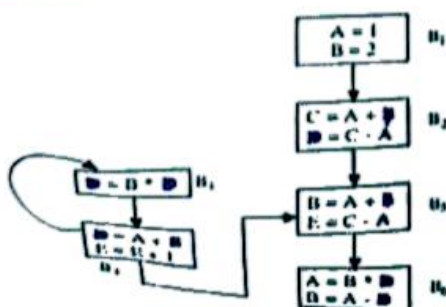
1

a) Loop unrolling.

3 4 2

b) Loop Jamming.

- (c) Find IN and OUT for every blocks for the following graph

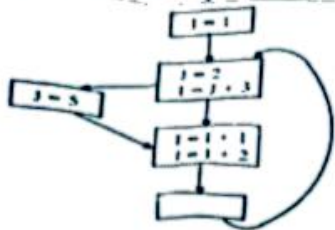


7 4 1

4(a) 1) Local and loop optimization in turn provide motivation for
a) data flow analysis b) constant folding c) peep hole optimization d) DFA and constant folding

2) The optimization technique which is typically applied on loops is
a) removal of invariant computation b) peephole optimization
c) constant folding d) all of these

(b) Explain Peephole optimization with their characteristics.
(c) What is data flow equations? Solve the data flow equation for the following flow graph.



5(a) 1) Symbol table can be used for
a) checking type compatibility
b) suppressing duplication of error message
c) storage allocation
d) All of these

2) The access time of the symbol table will be logarithmic if it is implemented by
a) Linear List
b) Search tree
c) hash table
4) Self organization list

(b) What are different storage allocation strategies? Explain *dynamic*
OR

6(a) 1) Which technique comes under Storage Allocation Strategies?
a) Static allocation
b) Stack allocation
c) Heap allocation and Static allocation
d) All of above

2) Which of the following is an example of static memory allocation?
a) Linked list
b) Stack
c) Queue
d) Array

(b) Define symbol table. Explain data structure use for Representation of symbol table

1			
2	CO4		
2			
5	CO4	2	
7	CO4	3	
1			
2	CO5		
3	CO5	1	
1			
2	CO5		
2			
5	CO5	3	

PRIYADARSHINI COLLEGE OF ENGINEERING, NAGPUR

Department: Computer Technology

Semester: VI

Section: A and B

Subject: Data Warehousing and Mining

CAT-II (2022-23)

Duration: 1.5Hrs

Subject Code: **BTCT602T**

Max. Marks: 35

Note:

- 1) All questions are compulsory. 2) All questions carry marks as indicated.
3) Due credits will be given on neatness. 4) Draw diagram wherever it is necessary.

Questions

		Marks	CO	BT Level
Q.1	A. Which one of the following correctly defines the term cluster? a) Group of similar objects that differ significantly from other objects b) Symbolic representation of facts or ideas from which information can potentially be extracted c) Operations on a database to transform or simplify data in order to prepare it for a machine-learning algorithm d). All of the above	1M	CO3	1
	B. The learning which is used for inferring a model from labeled training data is called? a) Unsupervised learning b) Reinforcement learning c) Supervised learning d) Missing data imputation	1M	CO3	1
	C. Consider the following dataset consisting of the scores of two variables on each of seven subjects. Design K Means clustering for the data set for two clusters.	5M	CO3	3

Subject	A	B
1	1	1
2	15	2
3	3	4
4	5	7
5	3.5	5
6	4.4	5
7	3.5	4.5

OR

Q.2	A. Identify the example of Nominal attribute one. a) Temperature b. Mass c. Salary d. Gender	1M	CO3	1
	B. Which is needed by K-means clustering? a) defined distance metric b) number of clusters c. initial guess as to cluster centroids d. all of these	1M	CO3	1
	C. What do you mean by hierarchical clustering approach? Explain agglomerative and divisive hierarchical clustering.	5M	CO3	2

Q.3	A. A collection of one or more items is called as ____ recovery. a) Support b) Itemset c) Confidence d) Support Count	1M	CO4	1
	B. When do you consider an association rule interesting? a) If it only satisfies min_support b) If it only satisfies min_confidence c) If it satisfies both min_support and min_confidence	1M	CO4	1

	d) There are other measures to check so			
	C. What is Frequent pattern mining and Association Rules? What is the use of both? Explain.	5M	CO4	2
	D. A database has five transactions. Let min sup = 2. TID items bought T1 {A, B, C, D, E,} T2 {B, C, D} T3 {B, C, D, E} T4 {A, B, C, D, E} T5 {B, C, D, E} Find all frequent itemsets using FP-growth Algorithm.	7M	CO4	3
OR				
Q.4	A. Apriori algorithm works on the principle? a) If a rule is infrequent, its specialized rules are also infrequent b) If a rule is infrequent, its generalized rules are also infrequent c) Both a and b d) None of these	1M	CO4	1
	B. What is association rule mining? a) Same as frequent itemset mining b) Finding of strong association rules using frequent itemsets c) Both a and b d) None of these	1M	CO4	1
	C. Explain Market Basket Analysis for mining frequent pattern set and association rules with suitable example.	5M	CO4	2
	D. Explain Apriori Algorithm with an example in detail.	7M	CO4	2
OR				
Q.5	A. Web content mining describes the discovery of useful information from the _____ contents. a) Text b) Web c) Page d) Level	1M	CO5	1
	B. In web mining, _____ is used to know the order in which URLs tend to be accessed. a) Clustering b) Association c) Sequential Analysis d) Classification	1M	CO5	1
	C. Explain Web Mining in detail.	4M	CO5	2
	D. Discuss i) Web Content Mining ii) Web Usage Mining	8M	CO5	2
	OR			
Q.6	A. _____ mining is concerned with discovering the model underlying the link structures of the web. a) Data Structure b) Web Structure c) Text Structure d) Image Structure	1M	CO6	1
	B. A link is said to be _____ link if it is between pages with the same domain name a) intrinsic b) transverse c) direct d) contrast	1M	CO6	1
	C. Describe various Graph properties of Web.	4M	CO6	5
	D. Discuss i) Web Structure Mining ii) Visual Web Data Mining	8M	CO6	2
	OR			

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

Priyadarshini College of Engineering, Nagpur

Department : C.Tech.

Semester : VI
CAT-II(2022-23)

Section : A & B

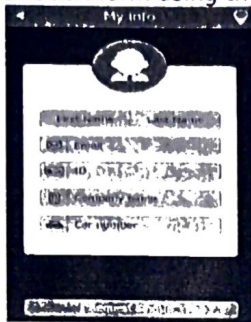
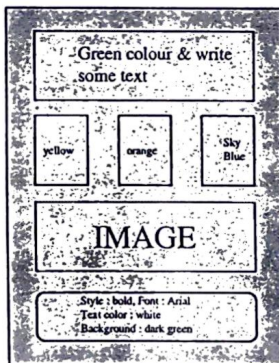
Subject : Elective II: STQA
Max. Marks : 35

Subject Code : BTCT603T-2
Duration : 1.5hrs

Sr. No.	Questions	Marks 1M	CO CO3	BL 1
Q1	A. What is the main task of test planning?			
I.	<ul style="list-style-type: none"> a) Measuring and analyzing results b) Evaluating exit criteria and reporting c) Determining the test approach <input checked="" type="checkbox"/> d) Preparing the test specification 	1M	CO3	1
I	I ITG stands for-----?			
I.	<ul style="list-style-type: none"> a) Integration Testing Group b) Instantaneous Test Group <input checked="" type="checkbox"/> c) Independent Test Group d) Individual Testing Group 	5M	CO3	1,2
B.	Difference between Alpha testing and beta testing.			
OR				
Q2	A. ----- are the problems that threaten the success of a project but which has not yet happened.	1M	CO3	1
I.	<ul style="list-style-type: none"> a) Risk b) Failure c) Failure d) Error 	1M	CO3	1
	What are the various Testing Levels?			
II	<ul style="list-style-type: none"> a) Unit Testing b) System Testing c) Integration Testing d) All of the mentioned 	5M	CO3	2
B.	Explain Regression testing with an example	1M	CO4	1
Q3	A. The intent of project metrics is:			
I.	<ul style="list-style-type: none"> a) minimization of development schedule b) for strategic purposes c) assessing project quality on ongoing basis <input checked="" type="checkbox"/> d) minimization of development schedule and assessing project quality on ongoing basis 	1M	CO4	1
I	I Which of the following is an indirect measure of product?			
I.	<ul style="list-style-type: none"> a) Quality b) Complexity c) Reliability <input checked="" type="checkbox"/> d) All of the Mentioned 	5M	CO4	2
B.	What are the approaches to generate the test data?	7M	CO4	2
C.	What is Debugging? Enlist its Testing techniques.			

OR

Q4 A.	I.	Which of the following testing is refers to as a fault-based testing technique?	1M	CO4	1
		a)Stress testing c)Beta testing			
		b)Mutation testing d) Unit testing			
	II	What is component testing?	1M	CO4	1
		a) White-box testing b) Grey box testing c) Black box testing d) Both a & c			
B.		Give the criteria for selecting testing tools.	5M	CO4	1,2
C.		Explain design and Architecture for Automation.	7M	CO4	2
Q5	A.	In size oriented metrics, metrics are developed based on the	1M	CO5	1,2
I.					
		a) number of Functions c) number of lines of code			
		b) number of user inputs d) amount of memory usage			
	II	Usability can be measured in terms of:	1M	CO5	1,2
		a) Intellectual skill to learn the system b) Time required to become moderately efficient in system usage c) Net increase in productivity d) All of the mentioned			
B.		Explain how the Progress metrics is calculated.	5M	CO5	2
C.		What is Syntax testing and write in detail about its formats and test cases?	7M	CO5	2
OR					
Q6	A.	SMI stands for?	1M	CO5	1
I.					
		a) Software Mature Indicator c) Software Maturity Index			
		b) Software Mature Index d) Software Maturity Indicator			
	II	----- is not used in evaluating the size of the software?	1M	CO5	1
		a) Function points c) Size of module			
		b) KLOC d) None of the above			
B.		What is Web testing?	5M	CO5	2
C.		What is Syntax testing and write in detail about its formats and test cases.	7M	CO5	2

		Develop the registration form using the following GUI.			
	C.		7	CO4	II
OR					
Q 4.	A.	1. All layout classes are the subclasses of - a) android.view.View b) android.view.ViewGroup c) android.widget d) None of the above	1	CO4	I
		2. What are the layouts available in android? a) Linear Layout b) Frame Layout c) Table Layout d) Relative Layout e) All of Above	1	CO3	I
	B.	Explain basic type of Android Testing	5	CO4	II
	C.	Observe the following GUI and write an XML file using relative layout to create the same. 	7	CO4	II
Q 5	A.	1. What built-in database is Android shipped with? a) SQLite b) Apache c) MySQL d) Oracle	1	CO5	I
		2. Which of the following does not belong to transitions? a) View Flipper b) View Animator c) View Switcher d) View Slider	1	CO5	I
	B.	Explain Web APIs, Network APIs, Telephony APIs	5	CO5	II
	C.	Explain the procedure steps of Publishing Android App	7	CO5	II
OR					

Q 6	A.	1. Which of the following would you have to include in your project to use the APIs and classes required to access the camera on the mobile device? a) Import android drivers camera b) Import android hardware c) Import android camera d) Import android util	2	CO5	I
	B.	Explain Android APIs & Discuss any 3 APIs with suitable example	5	CO5	II
	C.	Discuss the need for permissions in Android. Describe the permissions to set system functionalities like Bluetooth, camera.	7	CO5	II

PRIYADARSHINI COLLEGE OF ENGINEERING, NAGPUR

Dept.:CT/IT/EC/ETC/Aero/AI&DS/EE/EP

Semester VI

Subject: Open Elective-1: Blockchain Technologies

CAT- II (Session 2022-23) SubjectCode:BTech_CSE-604.3T

Duration: 1.5 hrs

Max. Marks: - 35

Note: All questions are compulsory

Q. No.	Questions	Marks	CO	BL
1.	a) i) Bitcoin was introduced to the public in _____ a) 2009 b) 2010 c) 2011 d) 2012 ii) A Bitcoin wallet is a digital wallet that can hold Bitcoin as well as other cryptocurrencies True or False	1 1	CO3	1 1
	b) Discuss in brief about Hardness of Bitcoin Mining.	5	CO3	2
OR				
2.	a) i) Bitcoin was introduced to the public by an anonymous developer or group of developers using the name Satoshi Nakamoto. True or False ii) The _____ nature of public blockchains means that participants on the network must be able to come to an agreement as to the shared state of the blockchain. a) centralized b) decentralized c) parallel d) none of the above	1 1	CO3	1 1
	b) How does Double Spending Happen? What are its type?	5	CO3	3
3.	a) i) A Merkle tree is a binary tree formed by hash pointers, and named after its creator True or False ii) _____ a regular pointer stores the memory address of data a) hash pointer b) cash pointer c) slash pointer d) nounce pointer	1 1	CO4	1 1
	b) What do you understand by Bitcoin Wallet? Discuss different types.	12	CO4	3
OR				
4.	a) i) With a crypto wallet, you can store, send and receive different coins and tokens. True or False ii) One of the key characteristics of cryptocurrencies is that it allows the users	1 1	CO4	1 1

to perform _____ transactions

- a) anonymous b) ambiguous c) audible d) none of the above

b) Write short notes on POW and POS. 12 CO4 2

5. a) i) _____ are the fundamental building blocks of Ethereum applications. 1 CO5 1

- a) Smart contracts b) Even contracts c) Odd contracts d) Double contracts

ii) Smart contracts are an exciting way to build decentralized applications (dapps) on a blockchain. 1 CO5 1

True or False

b) What do you understand by Ethereum Virtual Machine (EVM)? How Does EVM Works? 7 CO5 2

c) Discuss about pros and cons in case of EVM 5 CO5 3

OR

6. a) _____ is a statically typed, contract-oriented, high-level language for implementing smart contracts on the Ethereum platform. 1 CO5 1

- a) Solidity b) Contracts c) PoW d) PoS

ii) Solidity is an object-oriented programming language. 1 CO5 1

Correct or Incorrect

b) Write short notes on Ethereum Solidity. 7 CO5 2

c) What are smart contracts on blockchain? 5 CO5 2

Priyadarshini College of Engineering, Nagpur

Department: C Tech/IT/CSE

CAT II (2022-23)

Semester: VI

Subject: Economics of IT industry

Subject Code: BTIT607T/BTCT606/T/BTECH-CSE-608T

Duration: 1 Hr.

Max. Marks: 20

Note: 1. Solve Q.1 or Q.2, Q.3 or Q.4

2. All questions carry marks as indicated.

Q. N.	Questions	Marks	CO	BL
1.A	Explain various phases of Business cycle	5	CO2	3
1.B	Analyze top line and bottom line of the business organization.	4	CO3	3
1.C	Top line of business organization means 1.Gross sales revenue 2.Net profit 3. Gross deficit 4. None of these.	1	CO3	3
OR				
2.A	What do you understand by E Commerce state its importance.	5	CO3	3
2.B	Elaborate in your own words the concept of digital economy and digital age, digital divide,	4	CO2	3
2.C	One of the main causes of poor bottom line is 1) Increasing cost structure. 2. Increase in financial expenses.3. Both 1 and 2 4. None of these.	1	CO3	3
3.A	Explain Venture capital and angel funding as sources of business finance.	4	CO4	4
3.B	Write short notes on: 1. Digital economy 2. Digital age 3. Digital divide	5	CO2	4
3.C	State whether TRUE or FALSE Venture capital support is responsible for start-up growth in India.	1	CO4	4
OR				
4.A	Explain organic vs inorganic growth model of business.	5	CO4	4
4.B	Explain various phases of business cycle. <i>write short notes on i) through ii) depression</i>	4	CO4	4
4.C	State whether TRUE or FALSE Digitization of Indian economy promotes fast and hassle-free transactions.	1	CO4	4