Code: 7G151

III B.Tech. I Semester Supplementary Examinations August 2021

Advanced Java Programming

(Computer Science and Engineering)

Max. Marks: 70 Time: 3 Hours

Answer *any five* full questions by choosing one question from each unit (5x14 = 70 Marks)

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			Marks	CO	Blooms Level

UNIT–I

1. a) What are the Features of JavaFX? Explain the steps how to compile and execute a JavaFX Program? — 8M

   b) Write Short notes on JavaFX Packages. — 6M

OR

2. a) Explain JavaFX Application Skeleton with an example program? — 8M

   b) List and define the three components of JavaFX Application — 6M

UNIT–II

3. a) Differentiate between List and ComboBox — 6M

   b) Explain any four important packages of JavaFX — 8M

OR

4. a) Discuss briefly about JavaFX controls i) Tree View ii) Image View iii) CheckBox iv) Radio Button — 8M

   b) Write a program to add Tooltip and Disabling a control in JavaFX. — 6M

UNIT–III

5. a) What is JDBC? What is the use of JDBC? Explain with suitable examples. — 7M

   b) Write a Java Program to Insert, Delete, Update and relieve data from database using JDBC connectivity — 7M

OR

6. a) Explain about Establishing the Database Connection. — 7M

   b) Explain how to handling Multiple Results from a Statement Interface. — 7M

UNIT–IV

7. a) Explain the deployment of servlet step by step in tomcat server. — 7M

   b) List and explain core classes and Interfaces in javax.servlet package — 7M

OR

8. a) Write short notes on HTTP request and HTTP response objects — 6M

   b) Elaborate the role of cookies used for session tracking with an example. — 8M

UNIT–V

9. a) Explain error handling methods in JSP. — 6M

   b) What is a tag in JSP? Explain different types of JSP tags by taking suitable example. — 8M

OR

10. a) What are Java Beans? Give example. What is the serializable class in Java Beans? — 7M

    b) Explain deployment of JSP in Tomcat server. — 7M

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R-17

Code: 7G152

III B.Tech. I Semester Supplementary Examinations August 2021

Compiler Design

(Computer Science and Engineering)

Max. Marks: 70   Time: 3 Hours

Answer *any five full* questions by choosing one question from each unit (5x14 = 70 Marks)

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			Marks	CO	Blooms Level
		UNIT–I			
1.	a)	Explain about different phases of a compiler.	10M	CO1	L2
	b)	What is interpreter? Write Advantages and Disadvantages of Interpreter.	4M	CO1	L1
		OR			
2.		Write the rules to compute FIRST and FOLLOW. Also find the FIRST and FOLLOW for the non-terminals of the following grammar after eliminating the left recursion. $E \rightarrow E + T \mid T$ $T \rightarrow T * F \mid F$ $F \rightarrow (E) \mid id$	14M	CO2	L5
		UNIT–II			
3.	a)	Construct the LALR parsing table for the grammar. $S^1 \rightarrow S$ $S \rightarrow CC$ $C \rightarrow cC \mid d$	7M	CO3	L5
	b)	Discuss about the parser Generator Yacc.	7M	CO3	L1
		OR			
4.		Construct the LR(0) items and SLR parse table for the below grammar $E \rightarrow E + T \mid T$ $T \rightarrow T * F \mid F$ $F \rightarrow (E) \mid id$	14M	CO3	L5
		UNIT–III			
5.	a)	Construct an annotate parse tree for 3*5+4n	7M	CO3	L3
	b)	Explain about S-Attribute definitions and L-attributed definitions.	7M	CO3	L2
		OR			
6.	a)	Write ML program for the Length of a list. How length function can be used as a polymorphic function.	7M	CO3	L4
	b)	Explain about widening and narrowing type conversions between primitive conversions in java.	7M	CO4	L2
		UNIT–IV			
7.		Describe in detail about the storage allocation strategies.	14M	CO4	L1
		OR			
8.	a)	List the common three-address instruction forms.	7M	CO4	L1
	b)	Write the Quadruples and indirect triples for the following expression. $a = b * - c + b * - c$	7M	CO4	L5
		UNIT–V			
9.	a)	Discuss about various principal sources of optimization.	7M	CO5	L1
	b)	What is basic block? How can you transform a basic block into a DAG?	7M	CO5	L3
		OR			
10.	a)	Explain about various steps in code-generation Algorithm.	7M	CO5	L2
	b)	Explain about Register allocation by Graph coloring in register allocation and assignment.	7M	CO5	L2

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III B.Tech. I Semester Supplementary Examinations August 2021
Computer Networks
(Computer Science and Engineering)

Max. Marks: 70   Time: 3 Hours

Answer *all five* units by choosing one question from each unit (5 x 14 = 70 Marks)

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			Marks	CO	Blooms Level
		UNIT–I			
1.	a)	Make a comparison between the TCP/IP and OSI Models.	7M	CO1	L5
	b)	Explain the spread spectrum and ultra-wideband communications	7M	CO1	L4
		OR			
2.	a)	List and explain the four levels of addressing employed in TCP/IP protocols.	7M	CO1	L3
	b)	Compare and contrast the fiber optics and copper wire.	7M	CO1	L4
		UNIT–II			
3.	a)	What is the need for framing? Explain different farming methods in Datalink Layer.	7M	CO2	L3
	b)	Compare Go-Back-N and Selective Repeat sliding window protocols in terms of Storage and Bandwidth requirements to deal with the transmission errors	7M	CO2	L5
		OR			
4.	a)	Consider the delay of pure ALOHA versus slotted ALOHA at low load. Which one is less? Explain your answer.	7M	CO2	L6
	b)	Define Error Detection and Correction. List and explain the types of errors.	7M	CO2	L3
		UNIT–III			
5.	a)	Compare and contrast the datagram and virtual circuit networks	7M	CO3	L5
	b)	Explain the Link state routing protocol.	7M	CO3	L3
		OR			
6.	a)	How do you find the distance vector routing algorithm? Discuss.	7M	CO3	L1
	b)	Draw the format of IPv4 protocol header and explain each field.	7M	CO3	L1
		UNIT–IV			
7.	a)	The following is a dump of a UDP header in hexadecimal format. CB84000D001C001C, Is the packet directed from a client to a server or vice versa?	4M	CO4	L5
	b)	What are the differences between TCP and UDP? Explain the applications of UDP.	10M	CO4	L2
		OR			
8.	a)	Explain the elements of Transport protocols.	7M	CO4	L4
	b)	DNS uses UDP instead of TCP. If a DNS packet is lost, there is no automatic recovery. Does this cause a problem, and if so, how is it solved.	7M	CO4	L5
		UNIT–V			
9.	a)	Explain the e-mail architecture and services.	7M	CO5	L3
	b)	Discuss the Domain Resource Records in detail.	7M	CO5	L2
		OR			
10.		Explain the following: a) User Agent, b) Message Formats, c) Message Transfer	14M	CO5	L4

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Code: 7G356

III B.Tech. I Semester Supplementary Examinations August 2021
Microprocessors & Interfacing
(Computer Science and Engineering)

Max. Marks: 70   Time: 3 Hours

Answer *all five* units by choosing one question from each unit (5 x 14 = 70 Marks)

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			Marks	CO	Blooms Level
		UNIT–I			
1.	a)	Explain the instructions ADD, AND, SHR, MOVS with examples	8M		K2
	b)	Explain MACRO and MACRO within MACRO with example	6M		K3
		OR			
2.	a)	i) Explain the pipe lining concept in 8086	2M		
		ii) Code Segment Physical Address is 78965H. Find out CS and IP value	4M		K3
	b)	Write a procedure to add two numbers using 8086 assembly language	8M		K3
		UNIT–II			
3.	a)	Compare and Contrast Memory Mapped I/O and I/O mapped I/O	7M		K2
	b)	Interface two 4K X 4 EPROMs and two 4K X 4 RAM chips with 8086 microprocessor. Select suitable map	7M		K3
		OR			
4.	a)	Compare and Contrast I/O mapped I/O and Memory mapped I/O	7M		K2
	b)	Explain A/D and D/A Converters	7M		K2
		UNIT–III			
5.		Explain in detail about the Architecture of 8257 with neat diagram.	14M		K2
		OR			
6.	a)	Explain The Cascading of Interrupt Controllers	8M		K2
	b)	Compare and Contrast Programmed I/O and Interrupted I/O	6M		K2
		UNIT–IV			
7.	a)	Explain RS-232C Serial Data Standard and 20ma Current loop	7M		K2
	b)	Compare and Contrast Asynchronous and synchronous data transfer methods	7M		K2
		OR			
8.		Analyze 8251 USART architecture and interfacing with 8086	14M		K2
		UNIT–V			
9.	a)	What are the differences between 8086 and 80286	4M		K2
	b)	Explain segmentation in 80386	10M		K2
		OR			
10.	a)	What are salient features of Pentium pro processor	6M		K2
	b)	Explain real mode of 80386	8M		K2

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III B.Tech. I Semester Supplementary Examinations August 2021
Python Programming
(Computer Science and Engineering)

Max. Marks: 70   Time: 3 Hours
Answer *any five full questions* by choosing one question from each unit (5x14 = 70 Marks)
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			Marks	CO	Blooms Level
		UNIT–I			
1.	a)	List out various operators in Python and write the precedence of operators.	7M	CO1	L2
	b)	Describe important features of python in brief.	7M	CO1	L3
		OR			
2.	a)	Illustrate all the iterative statements in Python with suitable examples	8M	CO1	L4
	b)	Write a python program for implementation of nested-for loop.	6M	CO1	L3
		UNIT–II			
3.	a)	How to compare two given strings? Explain various String pattern matching functions in Python.	9M	CO2	L3
	b)	Define a dictionary. How to append elements in to the dictionary?	5M	CO2	L1
		OR			
4.	a)	Discuss about the List Slicing and List Mutability with examples.	8M	CO2	L2
	b)	Differentiate between list and tuple with an example.	6M	CO2	L3
		UNIT–III			
5.	a)	Demonstrate the implementation of inheritance in Python with example.	7M	CO3	L4
	b)	Implement compile time polymorphism using python script.	7M	CO3	L6
		OR			
6.	a)	How to handle an exception using try except block in Python? Illustrate with suitable program.	7M	CO3	L1
	b)	Write a Python program for implementation of Abstract Class.	7M	CO3	L6
		UNIT–IV			
7.	a)	What are the different of files in python? Give examples.	6M	CO4	L1
	b)	Develop a python script to copy the content of one file to another file	8M	CO4	L6
		OR			
8.	a)	Illustrate the benefits of Pickle package in python.	7M	CO4	L4
	b)	Develop a python script to reverse the content of given file.	7M	CO4	L6
		UNIT–V			
9.	a)	What are the advantages of multithreading?	6M	CO5	L1
	b)	Demonstrate Thread Life Cycle with a neat sketch. Write a Python program to create a new thread in Python.	8M	CO5	L4
		OR			
10.	a)	Explain the role of wait( ) and notify( ) methods in communication of multiple threads.	8M	CO5	L4
	b)	Write short note on Daemon threads in python.	6M	CO5	L2

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R-17

Code: 7G155

III B.Tech. I Semester Supplementary Examinations August 2021

Software Engineering

(Computer Science and Engineering)

Max. Marks: 70   Time: 3 Hours

Answer *all five* units by choosing one question from each unit (5 x 14 = 70 Marks)

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			Marks	CO	Blooms Level

UNIT–I

1.		Describe the evolution of software. Give the comparison of software and software system product.	14M	CO1	L1

OR

2.	a)	Explain applicability and advantages of software processes.	10M	CO1	L2
	b)	Explain process classification.	4M	CO1	L2

UNIT–II

3.	a)	Explain the importance of software specification of requirements.	10M	CO2	L1
	b)	What are the non-functional requirements of software	4M	CO2	L1

OR

4.		Describe various prototyping techniques and object oriented analysis and modeling principles.	14M	CO2	L1

UNIT–III

5.		What are the design principles of a good software design? Explain.	14M	CO3	L2

OR

6.	a)	Write short note on structured design methodologies.	10M	CO3	L2
	b)	Explain the design steps in transaction mapping.	4M	CO3	L2

UNIT–IV

7.		Explain black box testing methods and its advantages and disadvantages.	14M	CO4	L2

OR

8.		Discuss how the testing models may be used together to test a program schedule.	14M	CO4	L2

UNIT–V

9.	a)	Explain why the intangibility of software systems poses special problems for software project management.	10M	CO5	L2
	b)	Briefly explain project planning activity.	4M	CO5	L2

OR

10.	a)	Write about capability maturity model and how it is used for software quality.	10M	CO5	L1
	b)	Write a program be correct and still not exhibit good quality? Explain	4M	CO5	L1

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