Code No: 739/20B

Roll No.----------

B.Tech. (CSE) VII Semester
Examination: December, 2020
Advanced Java
Paper No.- CSE-407

Time: 2.30 hours

Max. Marks: 90

Note:- Attempt five question in all selecting one from each section. Question-1 is compulsory.

1. Which of these coding types is used for data type characters in Java?
   a) ASCII
   b) ISO-LATIN-1
   c) UNICODE
   d) None of the mentioned
2. How is Date stored in database?
   a) java.sql.Date
   b) java.util.Date
   c) java.sql.DateTime
   d) java.util.DateTime
3. What would be the behaviour if this() and super() used in a method?
   a) Runtime error
   b) Throws exception
   c) compile time error
   d) Runs successfully
4. Which of these is used to access member of class before object of that class is created?
   a) public
   b) private
   c) static
   d) protected
5. Which of these class is used to read and write bytes in a file?
   a) FileReader
   b) FileWriter
   c) FileInputStream
   d) InputStreamReader
6. Which of these method of InputStream is used to read integer representation of next available byte input?
   a) read()
   b) scanf()
   c) get()
   d) getInteger()

7. Which of the following statements is correct?
a) Public method is accessible to all other classes in the hierarchy
b) Public method is accessible only to subclasses of its parent class
c) Public method can only be called by object of its class
d) Public method can be accessed by calling object of the public class

8. Which of these package contains classes and interfaces for networking?
a) java.io
b) java.util
c) java.net
d) java.network

9. Which of these can be used to fully abstract a class from its implementation?
a) Objects
b) Packages
c) Interfaces
d) None of the Mentioned

10. Which of the following package stores all the standard java classes?
a) lang
b) java
c) util
d) java.packages

11. Which of these keywords can be used to prevent Method overriding?
a) static
b) constant
c) protected
d) final

12. What is the value of double consonant 'E' defined in Math class?
a) approximately 3
b) approximately 3.14
c) approximately 2.72
d) approximately 0

13. Which of these cannot be declared static?
a) class
b) object
c) variable
d) method

14. Which of the following is used to limit the number of rows returned?
a) setMaxRows(int i)
b) setMinRows(int i)
c) getMaxrows(int i)
d) getMinRows(int i)

15. Which of the following is method of JDBC batch process?
a) setBatch()
b) deleteBatch()
c) removeBatch()
d) addBatch()

16. Which of the following is used to rollback a JDBC transaction?
a) rollback()

b) rollforward()
c) deleteTransaction()
d) RemoveTransaction()

17. Which of the below is not a session tracking method?
a) URL rewriting
b) History
c) Cookies
d) SSL sessions

18. What is the maximum size of cookie?
a) 4 KB
b) 4 MB
c) 4 bytes
d) 40 KB

Section –A

2. a) What does @PathVariable do in Spring MVC? Why it's useful in REST with Spring?
b) What is difference between application server and web server? 18

3. a) What is J2EE? Name its components and clients types?
b) Explain J2ME,J2EE, and J2SE Applications? 18.

Section –B

4. a) What is JDBC database Connection Pool? How to setup in Java?
b) Explain the JDBC Architecture? What are the new features available in JDBC 4.0? 18.

5. a) What is difference between Statement, PreparedStatement and CallableStatement in JDBC?
b) How is *HashMap* implemented in Java? How does its implementation use hash Code and equals methods of objects? 18.

Section –C

6. a) What Is The Difference Between Servletcontext And Servletconfig?
b) How does the performance of JSP pages compare with that of servlets? How we call one servlet from another servlet? 18.

7. Explain Session Management in Java servlet with example? 18.

Section –D

8. a) What are the primary differences between the JSP custom tags and java beans?

   b) Explain the steps for creating custom tags in JSP? 18.

9. a)Explain JSP life cycle with diagram ?

   b) Explain difference between scriptlet tag and declaration tag in JSP? 18.

Code No.:733/20B

Roll No. 706

B.Tech (CSE) VII Semester
Examination: December, 2020
ADVANCED DATABASE ARCHITECTURE
PaperNo.-CSE-401

Time: 2:30 Hrs **Max Marks: 90**

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

1x18 = (18)

Q1. Answer the following:

i) Data independence means
   a) Data is defined separately and not included in program.
   b) Programs are not dependent on the physical attributes of data.
   c) Programs are not dependent on the logical attributes of data.
   d) Both b and c.

ii) DBMS helps achieve
   a) Data independence
   b) Centralized control of data
   c) Neither a nor b
   d) Both a and b.

iii) .....is a full form of SQL.
   a) Standard query language
   b) Sequential query language
   c) Structured query language
   d) Server side query language

iv) .....command can be used to modify a column in a table.
   a) Alter
   b) Update
   c) Set
   d) Create

v) The full form of DDL is
   a) Dynamic Data Language
   b) Detailed Data Language
   c) Data Defined Language
   d) Data Derivation Language

vi) Which of the following is not a recovery technique?
   a) Deferred update
   b) Immediate update
   c) Two-phase commit
   d) Recovery management

vii) .....is an essential part of any backup system.
   a) Filter
   b) Recovery
   c) Security
   d) Scalability

viii) Most backup and recovery commands in.....are executed by server sessions.
   a) Backup Manager
   b) Recovery Manager
   c) Backup and Recovery Manager
   d) Database Manager

ix) The property of transaction that persists all the crashes is
a) Atomicity
b) Durability
c) Isolation
d) All of the mentioned

x) A distributed database has which of the following advantages over a centralized database.
a) Software cost
b) Software complexity
c) Slow response
d) Modular growth

xi) In three-tier architecture, intermediate layer between database and client servers is classified as
a) Functional server
b) Transaction server
c) Application server
d) Disk server

xii) Non-procedural language and procedural language are classified as types of
a) Data manipulation language
b) Internal mapping language
c) Logical path language
d) External mapping language

xiii) Standard which allows access to DBMS by Java client programs is classified as
a) JCBD standard
b) JDBC standard
c) BDJC standard
d) CJBD standard

xiv) Levels in which three schema architecture can be defined includes
a) Internal schema
b) Conceptual schema
c) External schema
d) All of above

xv) Middle computer system which is accessed to access database server is classified as
a) Host server
b) Application server
c) Database server
d) Client server

xvi) In two-tier client/server architecture, running of application programs and user interface programs is in control of
a) Modulation side
b) Client side
c) Server side
d) Host side

xvii) Popular technique in web-based user interfaces are
a) Unstructured host manner
b) Pull-down menus
c) Pull-up options
d) Structured host manner

xviii) Computing model in which large number of printers, PCs, Web servers and database servers are connected to each other with the help of network is classified as
a) Client / server architecture
b) Host / compiler architecture
c) Client / module architecture
d) Application / terminal architecture

SECTION-A

Q2. a) What are data models? Explain all the different types of data models. (09)

b) What is a class? Explain how the attributes and methods are defined for the class. How do you relate a class and an object? Illustrate with an example. (09)

Q3. a) How type constructors are used to create complex object? (09)

b) What are the methods for achieving the persistency of the object? (09)

SECTION-B

Q4. What is a database transaction? How do database transactions work? Provide an example of a database transaction. (18)

Q5. What is client server database? Explain its three-tier client server architecture with block diagram.(18)

SECTION-C

Q6. What do you mean by parallel database? Discuss the architecture of parallel database. (18)

Q7. What do you mean by web database? What are the advantages and disadvantages of web database? (18)

SECTION-D

Q8.a) What is digital library? Discuss its advantages over traditional libraries. (09)

b) What are indexing techniques? Explain its advantages. (09)

Q9. Differentiate between spatial database and temporal database. (18)

****

Code No: 735/20B

Roll No.----------

B. Tech. (CSE) VII Semester
Examination: December, 2020
Software Project Management
Paper No.- CSE-403

Time – 2:30 **Max. Marks 90**

NOTE: Question No. 1 is compulsory. Attempt any five questions. One question is compulsory from each section.

Q-1. (18*1=18)

1. The longer a fault exists in software
   a) the more tedious its removal becomes b) the more costly it is to detect and correct
   c) the less likely it is to be properly corrected d) All of the mentioned

2. Component-based Software Engineering allows faster delivery.
   a) True b) False

3. Arrange the following steps to form a basic/general Engineering Process Model.
   i. Test
   ii. Design
   iii. Install
   iv. Specification
   v. Manufacture
   vi. Maintain
   a) 2, 4, 5, 1, 6, 3 b) 4, 2, 5, 1, 3, 6
   c) 2, 4, 5, 1, 3, 6 d) 4, 2, 5, 1, 6, 3

4. Which of the following categories is part of the output of software process?
   a) Computer programs b) documents that describe the computer programs
   c) Data d) All of the mentioned

5. Which is a software configuration management concept that helps us to control change without seriously impeding justifiable change?
   a) Baselines b) Source code
   c) Data model d) None of the mentioned

6. Software Configuration Management can be administered in several ways. These include
   a) A single software configuration management teamfor the whole organization
   b) A separate configuration management team for each project
   c) Software Configuration Management distributed among the project members
   d) All of the mentioned

7. What combines procedures and tools to manage different versions of configuration objects that are created during the software process?

a) Change control
b) Version control
c) SCIs
d) None of the mentioned

8. What complements the formal technical review by assessing a configuration object for characteristics that are generally not considered during review?

a) Software configuration audit
b) Software configuration management
c) Baseline
d) None of the mentioned

9. Which of the following is the process of assembling program components, data, and libraries, and then compiling and linking these to create an executable system?

a) System building
b) Release management
c) Change management
d) Version management

10. Which of the following option is not tracked by configuration management tools?

a) Tracking of change proposals
b) Storing versions of system components
c) Tracking the releases of system versions to customers
d) None of the mentioned

11. Which of the following is not a Software Configuration Management Activity?

a) Configuration item identification
b) Risk management
c) Release management
d) Branch management

12. The definition and use of configuration management standards is essential for quality certification in

a) ISO 9000
b) CMM
c) CMMI
d)All of the mentioned

13. What involves preparing software for external release and keeping track of the system versions that have been released for customer use?

a) System building
b) Release management
c) Change management
d) Version management

14. Which two requirements are given priority during Requirement Management of a product ?

a) User and Developer
b) Functional and Non-functional
c) Enduring and Volatile

15. Considering the example of issue/return of a book, cataloging etc. in a library management. What type of management requirement is being depicted here?

a) Enduring b) Volatile

16. Why is Requirements Management Important ? It is due to the changes

a) to the environment b) in technology

c) in customer's expectations d) in all of the mentioned.

17. Requirements Management is a prerequisite for Quality-Oriented Development.

a) True b) False

18. Requirements traceability is one of the most important part requirement management. It may also be referred to as the heart of requirement management.

a) True b) False

Section - A

Q-2. (a) Discuss in detail stepwise project planning with suitable example. 9

(b) Define the term management control with suitable example. 9

Q-3. (a) How a project works as a system explain with suitable example? 9

(b) What is the role of requirement specification in the project? 9

Section – B

Q-4. What are the limitations of waterfall model? How can these be rectified? Explain through an example. 18

Q-5. (a) What is risk management and why it is important? 9

(b) Differentiate between risk planning, risk avoidance, risk reduction and risk acceptance. 9

Section – C

Q-6. (a) What are the main strategies for getting the project back to target? 9

(b) What is the purpose of configuration manager? 9

Q-7. Define human recourse management and put a light on the following aspect: (9*2=18)

(a) Working in groups

(b) Motivating people

Section – D

Q-8. (a) Describe the following quality parameters. 9

(i) Operability

(ii) Traceability

(b) What do you understand by the term quality? Define software quality and discuss its importance. 9

Q-9. (a) Describe any software project management which you have studied or worked on. 9

(b) Write shorts on any two of the following: 9

(i) ISO 9126

(ii) Product vs Process quality management

(iii) RAD

Roll No:.....

B. Tech. (CSE) VII th Semester Examination, December, 2020

Compiler Design

Paper No: CSE-405

Time: 2:30 Hr.

Max. Marks: 90

Note: Attempt any five questions in all selecting one question from each section. Question 1 is compulsory.

Q1. Answer the following questions: 3*6

a. Define preprocessor. What are the functions of preprocessor?
b. Differentiate between Shift-reduce and Operator Precedence Parsers.
c. What are the various attributes of a Symbol Table?
d. Mention the issues to be considered while applying the techniques for code optimization.
e. Differentiate between compiler and interpreter.
f. Describe the need of separating the analysis phase into lexical phase and parsing?

SECTION- A

Q2. a. What do you mean by Translator? Give a brief description of different types of translators in detail with example. 9

b. What is language grammar? Explain different types of language grammars with their characteristics. 9

Q3. a. Construct the predictive parser for the following grammar 9

S -> (L) | a
L ->L,S | S

b. Write a regular expression for identifiers and reserved words. Design the transition diagrams for them. Why lexical and syntax analyzer are separated out? 9

SECTION- B

Q4. a. Parse the input string int id,id; using shift-reduce parser for the grammar 9

S -> TL;
T -> int | float
L -> L,id | Id

b. Write the steps for the efficient construction of LALR parsing table. Explain with an example. 9

Q5. a. Translate the assignment x := A[y,z] into three address statement. 9

b. Define Type Checker. Write down the specification of a simple Type Checker. 9

SECTION- C

Q6. a. Construct NFA equivalent to regular expression r= (a + b)*ab. 9

b. Write the quadruple, triple, indirect triple for the expression 9

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

Q7. a. Write an algorithm for constructing the dependency graph for a given parse tree. 9

b. Construct basic blocks, data flow graph and identify loop invariant statements for the following: 9

for (i=1 to n)
{

```
j=1;
while (j<=n)
{
A=B*C/D;
j=j+1;
}
)
```

SECTION- D

Q8. a. Explain in detail about the instruction scheduling with an example. 9

b. What are the principle sources of optimization? Give the classification of code optimization. 9

Q9. Write short notes on the following: 6*3

a. Syntactic Errors

b. Machine dependent code

c. Hash Tables

Code No.:741/20B

Roll No._____

B.Tech (CSE) VII Semester
Examination: December, 2020
ADVANCED COMPUTER ARCHITECTURE
PaperNo.-CSE-415

Time: 2:30 Hrs **Max Marks: 90**

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

Q1. Answer the following questions: 9x2 = (18)

i) Operands working in stack-architecture are implicitly
   a) On bottom of stack
   b) On middle of stack
   c) On top of stack
   d) On top of queue

ii) Levels between CPU and main memory were given a name of
   a) Hit time
   b) Miss rate
   c) Locality in time
   d) Cache

iii) Cache size issue can have significant impact on
   a) Throughput
   b) Effectively
   c) Transmission channel
   d) Performance

iv) The reason for the implementation of the cache memory is
   a) To increase the internal memory of the system
   b) The difference in speeds of operation of the processor and memory
   c) To reduce the memory access and cycle time
   d) All of the mentioned

v) The effectiveness of the cache memory is based on the property of
   a) Locality of reference
   b) Memory of localization
   c) Memory size
   d) None of the mentioned

vi) The spatial aspect of the locality of reference means
   a) That the recently executed instruction is executes again next
   b) That the recently executed won't be executed again
   c) That the instruction executed will be executed at a later time
   d) That the instruction in close proximity of the instruction executed will be executed in future

vii) The write-through procedure is used
   a) To write onto the memory directly
   b) To write and read from memory simultaneously
   c) To write directly on the memory and the cache simultaneously
   d) None of the mentioned

viii) The copy-back protocol is used
   a) To copy the contents of the memory onto the cache
   b) To update the contents of the memory from the cache
   c) To remove the contents of the cache and push it onto the memory
   d) None of the mentioned

ix) The bit used to signify that the cache location is updated is
a) Dirty bit
b) Update bit
c) Reference bit
d) Flag bit

SECTION-A

Q2. a) Explain in detail about Instruction Set Architecture. (09)
b) What are the various data types? Also discuss state, cycle and command in brief. (09)

Q3. Discuss interpretation and micro programming. Give difference between Hardwired Decoder and Microprogrammed decoder. (18)

SECTION-B

Q4. a) What are the various Cache Write Policies? Explain in detail. (09)
b) What are the various common types caches? Discuss Split-I and D-cache. (09)

Q5. a) An integrated cache with two reference per instructions (one I reference and one D reference). The data (D) references are divided: 68% reads, 32% writes, 30% dirty lines, 8B physical word, 64B line and 5% read miss rate. Compute the memory traffic for WTNWA and CBWA at 5% miss rate. (10)
b) Explain Full Associative mapping of cache. (08)

SECTION-C

Q6. a) Describe Hellerman's and Rau's model in detail. What are the significance of these models? (09)
b) What are the various steps in designing the Memory System? Explain. (09)

Q7. a) Describe memory module and also explain the memory chip timing diagram. (09)
b) Discuss DRAM and SRAM. (09)

SECTION-D

Q8. a) What is vector processor and give its functional unit? (09)
b) Give the complete description about Shared Memory Multiprocessors. (09)

Q9. Give short notes on any two of the following: 2x9= (18)

a) Vector memory
b) Basic issues of Multiprocessor
c) Significance of CAO.

****

Code No:743/20B Roll No._____

B.Tech (CSE/ECE/EEE) VII Semester
Examination: December, 2020
ENTREPRENEURSHIP
Paper No.-MGT-307 / MBA-401

Time: 2:30 Hrs **Max Marks: 90**

Note: Attempt five questions in all selecting one question from each unit. Question No. 1 is compulsory. All questions carry equal marks.

Q1. Answer the following questions in short:
a) Managerial approach Vs Entrepreneurial approach.
b) Creative problem solving.
c) Contingency planning.
d) Venture capital.
e)

UNIT-I

Q2. Discuss the various skills and knowledge required for entrepreneurship.

Q3. Describe the role of entrepreneurship in economic development.

UNIT-II

Q4. Describe the methods and sources of generating new business ideas.

Q5. What do you understand by feasibility analysis? Explain with a suitable example.

UNIT-III

Q6. Explain the various steps involved in preparing a marketing plan.

Q7. Describe the meaning of manpower planning. Write down the components of job design.

UNIT-IV

Q8. What are the sources of financing a business? Explain in detail.

Q9. Write a detailed note on intellectual property rights.

****