

SARDAR PATEL UNIVERSITY
Master of Computer Application
Semester - IV External Examinations
PS04EMCA21 - Advanced Java Programming
15th April, 2019, Monday

Max Marks: 70

Time: 02:00 p.m. to 05:00 p.m.

[8]

Q1. Choose the most appropriate option for each question.

- i. _____ method can be used to get complete list of all parameters in the current request.
 A) request.getParameter() B) request.getParameterNames()
 C) request.getParameterValues() D) None of these
- ii. _____ returns the port number on which the request was received.
 A) request.getServerPort() B) response.getServerPort()
 C) Header.getServerPort() D) None of these
- iii. _____ is used to forward to a servlet, JSP, HTML page, and so on, on the server.
 A) RequestDispatcher.send() B) ResponseDispatcher.forward()
 C) RequestDispatcher.redirect() D) RequestDispatcher.forward()
- iv. The dispatcher result type which is used if no other result type is specified is _____
 A) error B) input
 C) default D) success
- v. _____ object is used to create SessionFactory object in hibernate.
 A) Configuration B) Session
 C) Sessionfactory D) Transaction
- vi. _____ creates a new instance of Query for the given SQL query string.
 A) request.createSQLQuery B) response.createSQLQuery
 C) Session.createSQLQuery D) Session.createQuery
- vii. Which of the following bean stores data of a particular user for a single session?
 A) Stateful B) Stateless
 C) Message-driven beans D) None of these
- viii. Which of the following bean represents persistent data storage?
 A) Session beans B) Entity beans
 C) Message-driven beans D) None of these

Q2. Answer the following questions (Any Seven):

- a. Define the following: 1)JSP Scriptlet tags 2)JSP declaration tags
- b. List any four advantages of Servlet.
- c. List all the four possible values of scope attribute on JSP page.
- d. Explain struts.xml configuration file used in Struts 2.
- e. Explain Struts 2 validation framework.
- f. Write the example of delete clause of HQL for Hibernate 3.
- g. Explain component tag of Hibernate 3.
- h. Draw the life cycle of message-driven beans.
- i. Explain the decorator pattern in J2EE design pattern.

(P.T.O)

(2)

Q3. Answer the following questions:

- a. How is exceptional handling managed in servlets? List and explain of request attributes that that an error-handling servlet can access to analyse the nature of error/exception. [6]
- b. Explain different methods to set HTTP Status Code. Explain general structure of it. [6]

OR

- b. Draw and explain MVC Framework in detail. [6]

Q4. Answer the following questions:

- a. Discuss different control tags available in Struts 2 framework. [6]
- b. List different types of cookies. Explain cookies handling mechanism in servlets. [6]

OR

- b. Explain Struts 2 <result> tags. Write the code snippet for explaining different values return as "result" in action classes. [6]

Q5. Answer the following questions:

- a. List and discuss the components of JPA architecture. [6]
- b. Explain different components of Persistence Layer of Hibernate 3. [6]

OR

- b. What is session bean? Discuss different types of session beans in detail by taking a suitable example of your choice. [6]

Q6. Answer the following questions:

- a. Explain any two Hibernate 3 objects in detail. [6]
- b. create table ADDRESS (

```
    ADD_id INT NOT NULL auto_increment,  
    HOUSE_NAME VARCHAR(20) default NULL,  
    STREET_NAME VARCHAR(20) default NULL,  
    CITY_NAME VARCHAR(20) default NULL,  
    STATE_NAME VARCHAR(20) default NULL,  
    COUNTRY_NAME VARCHAR(20) default NULL,  
    PRIMARY KEY (ADD_id)  
);
```

The above table is created in mysql database. Write the code snippet for the pojo object and hibernate mapping tag for the above table.

OR

- b. What is a j2EE design pattern? Discuss composite entity pattern in detail. [6]

— X —
(2)

(5)

POST GRADUATE DEPARTMENT OF COMPUTER SCIENCE AND TECHNOLOGY
MASTER OF COMPUTER APPLICATIONS (MCA)
PS03CMCA31 (WEB APPLICATION FRAMEWORK) SEMESTER – III
QUIZ-1 (23RD SEPTEMBER, 2021)

Time : 10 Minutes

Marks : 10

PID : _____

Name : _____

Note : Write your answer in the following boxes for 1 to 10.

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)

MCQs

(10)

- (1) HTML5 document begin with -
[a] <html> [b] <!doctype> [c] <header> [d] <start>
- (2) HTML5 element <canvas> can be used to
[a] Draw graphics [b] Photo compositions
[c] Animations [d] All the mentioned above
- (3) jQuery method to set one or more style properties for selected elements?
[a] style() [b] css() [c] html() [d] setCSS()
- (4) What does the selector \$("nav") do?
[a] It selects all nav elements from HTML page
[b] It selects first nav elements from HTML page
[c] It selects last nav elements from HTML page
[d] It selects first nav within section element from HTML page
- (5) The _____ is the most popular CSS Framework for developing responsive and mobile-first websites.
[a] Bootstrap [b] Bulma [c] Pure [d] Ulkit
- (6) Which software architectural pattern is followed by the Angular framework?
[a] MVC [b] MVMV [c] MVVM [d] None of these
- (7) Which of the following is not a type of data binding in Angular?
[a] String interpolation [b] Property binding
[c] Click binding [d] Event binding
- (8) The Angular framework is developed using -
[a] TypeScript [b] Node .js [c] RxJS [d] None of these
- (9) The command to create a new Angular app is -
[a] ng new <app-name> [b] ng generate <app-name>
[c] new new app <app-name> [d] ng generate app <app-name>
- (10) An Angular service class is identified by _____ decorator.
[a] @Service [b] @Injectable [c] @Route [d] @Component

[132/A-33]

SEAT No. _____

(9)

SARDAR PATEL UNIVERSITY

MASTER OF COMPUTER APPLICATIONS (MCA)

SEMESTER - IV

PS04CMCA23 (SOFTWARE ENGINEERING)

20TH NOVEMBER, 2019, Wednesday

Marks : 70

Time : 2:00 p.m. to 5:00 p.m.

Note : Answers of all the questions (including multiple choice questions) should be written in the provided answer book only.

Q-1 Pick up the most appropriate answer from the given alternatives and write (8)
in your answer book.

- (i) The goal of SE is -
 - [A] To produce high quality software
 - [B] To produce low cost software
 - [C] Both [A] and [B]
 - [D] None of these
- (ii) The most important feature of spiral model is -
 - [A] requirement analysis
 - [B] risk management
 - [C] quality management
 - [D] None of these
- (iii) Which of the following is NOT a desirable characteristic of SRS document?
 - [A] Concise
 - [B] Ambiguous
 - [C] Traceable
 - [D] Verifiable
- (iv) _____ Requirements place restrictions on the use of certain commands, control access to data, and maintain a log of activities in the system.
 - [A] Hardware limitations
 - [B] Security
 - [C] Reliability and fault Tolerance
 - [D] Standards Compliance
- (v) In COCOMO, projects are categorized into -
 - [A] 5 types
 - [B] 2 types
 - [C] 3 types
 - [D] 4 types
- (vi) A system is considered _____ if it consists of discreet components so that each component can be implemented separately, and a change to one component has minimal impact on other components.
 - [A] Balanced
 - [B] Modular
 - [C] Hierarchical
 - [D] None of these
- (vii) Regression testing is primarily related to
 - [A] Functional testing
 - [B] Development testing
 - [C] Maintenance testing
 - [D] None of these
- (viii) The type of software testing in which each module is tested along in an attempt to discover any errors in its code, is known as
 - [A] Integration testing
 - [B] Acceptance testing
 - [C] Mutation testing
 - [D] Unit testing

Q-2 Attempt the following: (ANY SEVEN)

(14)

- i. Define the term 'Software' and 'Software Engineering'.
- ii. List out various quality attributes of a software.
- iii. What is SRS? Why is it required?
- iv. Differentiate between: OOA and OOD.



(P.T.O.)

(5)

- v. Write the full-form of : EAF, TDD, WBS, UML.
- vi. Define the meaning of 'Use Case' with an example.
- vii. Define the meaning of 'Error' and 'Fault'.
- viii. What do you mean by 'Software Reuse'? Why is it useful?
- ix. Differentiate : Black-box testing and White-box testing.

- Q-3** (a) Explain - 'Spiral model with its merits and demerits'. (6)
(b) Explain the desirable characteristics and components of an SRS. (6)

OR

- (b) Define 'Software Process'. Explain ETVX approach for process specification. (6)

- Q-4** (a) Discuss Risk Management of a software project planning. (6)
(b) Explain - various challenges for Software Engineering. (6)

OR

- (b) Explain V&V and Q&P. (6)

- Q-5** (a) Explain - Defect Injection and Removal Cycle. (6)
(b) Explain - Project Monitoring Plans. (6)

OR

- (b) Explain - 'Role of UML in Software Development'. (6)

- Q-6** (a) What is Coding? Explain Test-Driven coding process. (6)
(b) What is Testing? What is the importance of Testing in S/W development process? Explain various levels of testing. (6)

OR

- (b) Define the term 'coupling'. Explain various types of coupling with an example. (6)

— X —
②

Seat No. _____

[69/A-25]

(6)

SARDAR PATEL UNIVERSITY
Master of Computer Application
Semester - IV External Examinations
PS04EMCA21 – Advanced Java Programming
27th November, 2019

Max Marks: 70

Time: 02:00 p.m. to 05:00 p.m.

[8]

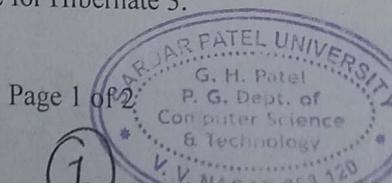
Q1. Choose the most appropriate option for each question.

- i. _____ beans represents persistent data storage
 - A) Stateful
 - B) Stateless
 - C) EJB
 - D) None of these
- ii. Persistent objects are retrieved using a _____ object
 - A) session
 - B) criteria
 - C) transaction
 - D) None of these
- iii. A _____ represents a unit of work with the database and most of the RDBMS supports transaction functionality.
 - A) session
 - B) criteria
 - C) transaction
 - D) None of these
- iv. _____ is a Software Code that controls the interactions between the Model and View.
 - A) Servlet()
 - B) Control
 - C) JSP
 - D) None of these
- v. _____ serves as a factory for spawning EntityManager objects when required.
 - A) Entityfactory
 - B) EntityManager
 - C) EntityManagerFactory
 - D) Entity
- vi. The _____ file contains the configuration information that you will be modifying as actions are developed
 - A) Struts.config.xml
 - B) Struts.xml
 - C) web.xml
 - D) None of these
- vii. The _____ tag generates an iterator based on the val attribute supplied.
 - A) append
 - B) merge
 - C) generator
 - D) iterator
- viii. _____ is a programming technique for converting data between relational databases and object oriented programming languages.
 - A) Object oriented Relation Mapping
 - B) Object Relation programming
 - C) Object Relation Mapping
 - D) Object Relational Mapping

Q2. Answer the following questions (Any Seven):

[14]

- a. List any four advantages of Servlet in comparison with CGI.
- b. List any 4 types of Servlet filters.
- c. Write the code use to declare variable named "str" in JSP pages.
- d. Explain proxy J2EE design patterns.
- e. List different paradigm mismatches between relational and object oriented concepts.
- f. What is a Entity bean?
- g. List the steps in request life cycle of Struts 2 application.
- h. What are interceptors? List its uses.
- i. Write the example of insert clause of HQL for Hibernate 3.



(P.T.O.)

- 7
- Q3. Answer the following questions:** [6]
- Discuss ORM in detail. [6]
 - Write a short note on implicit objects in JSP. Explain any two in detail.
- OR**
- Draw and explain request life cycle in Struts 2 framework. [6]
- Q4. Answer the following questions:** [6]
- Discuss different control tags available in Struts 2 framework. [6]
 - List different types of cookies. Explain cookies handling mechanism in servlets.
- OR**
- Discuss different methods to set HTTP Status Code. Explain general structure of it. [6]
- Q5. Answer the following questions:** [6]
- Explain Hibernate objects. [6]
 - What is a design pattern? Explain singleton design pattern in detail.
- OR**
- What is a bean? Discuss different types of beans in detail by taking a suitable example of your choice. [6]
- Q6. Answer the following questions:** [6]
- Explain the Hibernate generator tag of Hibernate 3. [6]
 - Create table EMPLOYEE (
 id INT NOT NULL auto_increment,
 first_name VARCHAR(20) default NULL,
 last_name VARCHAR(20) default NULL,
 salary INT default NULL,
 PRIMARY KEY (id)
);
The above table is created in mysql database. Write the code snippet for the pojo object and hibernate mapping tag for the above table.
- OR**
- Write a short note on decorator pattern in Java. [6]

— X —

SARDAR PATEL UNIVERSITY

MASTER OF COMPUTER APPLICATIONS (MCA)

SEMESTER - III

PS03CMCA03 (THE .NET TECHNOLOGY)

21ST NOVEMBER, 2014

Net

TIME : 11:00 a.m. to 2:00 p.m.

Marks : 70

Note : Answers of all the questions (including multiple choice questions) should be written in the provided answer book only.

Q-1 Pick up the most appropriate answer from the give alternatives and write in your answer book. (8)

- (i) Which ONE of the following controls has ZoomFactor property?
 [A] TextBox [B] RichTextBox [C] PictureBox [D] None of these
- (ii) What is the extension of C#.NET Window's form file?
[A] .cs [B] .frm [C] .frx [D] None of these
- (iii) Which one of the following is not a property of form object?
[A] WindowState [B] Name [C] MultiLine [D] None of these
- (iv) The extension of a Crystal report file is -
[A] .prt [B] .rtp [C] .rpt [D] None of these
- (v) Which of the followings are the correct ways to create an object of the class Person?
1.. Person p1 = new Person();
2. Person p1;
3. Person p1; p1 = new Person();
4. p1 = new Person();
[A] 1 and 2
[B] 2 and 3
[C] 1 and 3
[D] None of these
- (vi) Object is an _____ of a class.
[A] copy [B] instance [C] child [D] None of these
- (vii) In Visual C#.NET, If no access modifier is specified for a class, it is considered as
 [A] public [B] private [C] friend [D] None of these
- (viii) Which ONE of the following namespace is required while working with multithreaded application?
 [A] System.Thread
[C] Syatem.Multithreading [B] System.Threading
[D] None of these

Q-2 Attempt the following: (ANY SEVEN)

- i. - What is Visual Studio 2010? Why is it used?
- ii. - List down any four .NET data types and explain any one of them.
- iii. Differentiate : String and StringBuilder.
- iv. Differentiate : Class and Structure.
- v. - What is Data Adapter? How can we fill data into Dataset using Data Adapter?
- vi. - How do we handle error in C# code?
- vii. Write a simple example of Console Application.
- viii. What is partial class? How can we create a class in C#.NET?
- ix. Write down steps for creating custom controls.

(Contd.. 2)

- Q-3 (a) Draw the diagram of .NET architecture and explain core components of .NET architecture.
(b) What is Visual C#? Explain in brief the general structure of a Visual C# program.

OR

- (b) Explain advanced features of .NET Framework 4.0.
Q-4 (a) Define the term 'Collection'. Explain foreach statement with an example.
(b) Write a note on 'Windows Form'.

OR

- (b) Explain DataGridView control and MaskedTextBox control.
Q-5 (a) What is ADO.NET? With a diagram of ADO.NET architecture, explain connected mode and disconnected mode of ADO.NET.
(b) Write down advanced features of .NET framework 4.0 and explain concept of an extension method with an example.

OR

- (b) Explain switch statement and foreach statement with an example.
Q-6 (a) Explain MaskedTextBox control and GroupBox control.
(b) Explain the concept of Multithreading with its example.

OR

- (b) Explain - LINQ and Regular Expression using Visual C#.NET.

SARDAR PATEL UNIVERSITY

MASTER OF COMPUTER APPLICATIONS (MCA)

SEMESTER - III

PS03CMCA03 (THE .NET TECHNOLOGY)

23RD NOVEMBER, 2015

Time : 11:00 a.m. to 2:00 p.m.

Marks : 70

Note : Answers of all the questions (including multiple choice questions) should be written in the provided answer book only.

Q-1 Pick up the most appropriate answer from the give alternatives and write in your answer book. (8)

- (i) Visual-C# is a
 [A] case-sensitive [B] type-safe [C] object-oriented [D] all of these
- (ii) Find odd one out.
 [A] Text [B] Show [C] Icon [D] Left
- (iii) Which one of the following is not a property of form object?
 [A] WindowState [B] Name [C] MultiLine [D] None of these
- (iv) The extension of a Crystal report file is -
 [A] .prt [B] .rpt [C] .rpt [D] .crt
- (v) Which one of the followings represent the symbol for Lambda operator?
 [A] ==> [B] => [C] <= [D] <>=
- (vi) Which one of the followings is NOT true for Visual-C#?
 [A] We cannot create an object. [B] We can have multiple destructors.
 [C] We can have multiple constructors. [D] We can create partial class.
- (vii) If no access modifier is specified for a class, it is considered as -
 [A] public [B] private [C] friend [D] None of these
- (viii) Which ONE of the following namespace is required while working with multithreaded application?
 [A] System.Thread [B] System.Threading
 [C] Syatem.Multithreading [D] None of these

Q-2 Attempt the following: (ANY SEVEN)

(14)

- I. State the major advantages of using Visual-C#.
- II. Differentiate : ListBox control and ComboBox control.
- III. Write full-form of : LINQ, CLR, CTS and BCL.
- IV. Define the term 'Partial Class' with an example.
- V. Explain in brief about Console Application.
- VI. Explain the concept of Inheritance with its meaning and example.
- VII. What is Data Adapter? How can we fill data into Dataset using Data Adapter?
- VIII. What is .NET Remoting? Why is it used?
- IX. State the meaning of an extension method with an example.



(Contd./2)

(R)

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(Page # 2)

Q-3 (a) Draw and explain .NET architecture. (6)

(b) Explain in the general structure/skeleton of a Visual C# program. (6)

OR

(b) List down advanced features of .NET Framework 4.0 and explain any two of them. (6)

Q-4 (a) What is 'Interface'? Write down the benefits of using an interface. By taking suitable example, explain the use of an interface. (6)

(b) Explain - 'NET collections'. (6)

OR

(b) Explain MenuStrip and TabControl controls. (6)

Q-5 (a) Explain the concept of 1-dimensional, 2-dimensional and Jagged array by taking suitable example. (6)

(b) Draw and explain ADO.NET architecture. (6)

OR

(b) Write down important steps while processing the data from any database using Visual-C# programming language. (6)

Q-6 (a) Explain Timer control and PictureBox control. (6)

(b) Write down the steps for creating Client/Server application using Visual-C#. (6)

OR

(b) Explain - User Defined Controls using Visual-C#. (6)

SARDAR PATEL UNIVERSITY

MASTER OF COMPUTER APPLICATIONS (MCA)

SEMESTER - III

PS03CMCA03 (THE .NET TECHNOLOGY)

21ST NOVEMBER, 2016

.Net (7+6)

NO. OF PAGES : 2

Time : 11:00 a.m. to 2:00 p.m.

Marks : 70

Note : Answers of all the questions (including multiple choice questions) should be written in the provided answer book only.

Q-1 Pick up the most appropriate answer from the given alternatives and write (8) in your answer book.

- (i) Which ONE of the following controls has ZoomFactor property?
[A] TextBox [B] RichTextBox [C] PictureBox [D] None of these
- (ii) _____ array is not an valid array of C#?
[A] Multidimensional [B] Jagged
[C] Multidimensional [D] None of these
- (iii) One can change the caption of label control using _____ property.
[A] Label [B] Text [C] TextBox [D] None of these
- (iv) Timer control has _____ event.
[A] Tick [B] Click [C] Blink [D] None of these
- (v) Which of the followings are the correct ways to create an object from the class Person?
1. Person p1 = new Person();
2. Person p1;
3. Person p1, p1 = new Person();
4. p1 = new Person();
[A] 1 and 2
[B] 2 and 3
[C] 1 and 3
[D] None of these
- (vi) Which one of the following symbols is used to extend the class?
[A] : [B] ; [C] :: [D] None of these
- (vii) In Visual C#.NET, If no access modifier is specified for a class, it is considered as _____ [D] None of these
[A] public [B] private [C] friend
- (viii) _____ is the extension of WPF Window Form (visual part).
[A] .xaml [B] .xml [C] .cts [D] .wpf

(14)

Q-2 Attempt the following: (ANY SEVEN)

- i. Write a simple example of Console Application.
- ii. Differentiate: Class and Structure.
- iii. Explain the role of CLR in brief.
- iv. Differentiate between Reference Types and Value Types.
- v. Explain ArrayList in brief with one example.
- vi. Explain in brief about ExecuteNonQuery() and ExecuteScaler().
- vii. How do we can handle error in C# code?
- viii. What is partial class? How can we create a partial class in C#.NET?
- ix. Write full-form of : MSIL, ODBC, WPF, MDI.

(Contd..1/2)

NET (2016)

(Page # 2)

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- Q-3 (a) Explain Dot Net Framework in detail along with its diagram.
(b) Explain the general structure (skeleton) of Visual C# program.

OR

- (b) Write a note on windows form life cycle.

- Q-4 (a) Explain Button, CheckBox and OpenFileDialog controls.
(b) Explain foreach and switch statements with an example.

OR

- (b) Explain Tab control and Menu control.

- Q-5 (a) Explain ADO.NET architecture in detail.

- (b) Explain DataReader and DataAdaptor class in detail.

OR

- (b) Define exception and its types. Explain try...catch statement with an example.

- Q-6 (a) Explain the concept of Multithreading with its example.

- (b) Write a note on WPF and WCF.

(6)

(6)

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Time : 11:00 a.m. to 2:00 p.m.
(6) (6) (6) (6) (6) (6)

Note : Answers of all the questions should be written

Q-1 Pick up the most appropriate answer
which is developed
in your answer book.

SARDAR PATEL UNIVERSITY

MASTER OF COMPUTER APPLICATIONS (MCA)

SEMESTER - III

PS03CMCA03 (THE .NET TECHNOLOGY)

24TH NOVEMBER, 2017

14

Time : 11:00 a.m. to 2:00 p.m.

Marks : 70

Note : Answers of all the questions (including multiple choice questions) should be written in the provided answer book only.

Q-1 Pick up the most appropriate answer from the given alternatives and write in _____ your answer book. (8)

- (i) The code, which is developed in .NET framework is known as _____ code.
[A] managed [B] unmanaged [C] dead [D] solid
- (ii) Which ONE of the following operators can be used to concatenate two or more String objects?
[A] + [B] ||
[C] & [D] None of these
- (iii) Which one of the following is not a property of form object?
[A] WindowState [B] Name [C] MultiLine [D] None of these
- (iv) One can change the title of a form object, using _____ property.
[A] Icon [B] Text [C] Data [D] Caption
- (v) _____ keyword is used to prevent the class from being inherited from other classes.
[A] sealed [B] static [C] abstract [D] partial
- (vi) The data members of a class by default are _____.
[A] public [B] private [C] protected [D] None of these
- (vii) In ADO.NET DataReader provides _____ direction of approach.
[A] backward [B] forward [C] both A & B [D] None of these
- (viii) A _____ is a reference type variable that uses to holds the reference to a method.
[A] pointer [B] generic [C] delegate [D] None of these

Q-2 Attempt the following: (ANY SEVEN)

(14)

- I. Explain in brief about Console Application.
- II. Differentiate : CheckBox control and RadioButton control.
- III. Differentiate : Class and Structure.
- IV. Define the term 'Partial Class' with an example.
- V. Write any four keywords used in Visual-C#.NET.
- VI. Write full-form of : WPF, BCL, CLR and SDI.
- VII. List logical operators of C#.NET and explain in one line.
- VIII. What is Data Adapter? How can we fill data into Dataset using Data Adapter?
- IX. Define the meaning of 'Namespace' with an example.
- X. Explain the use of 'Ternary Operator' with an example.

(Contd./2)

(Page # 2)

- Q-3 (a) Draw .Net Framework and explain CLR and BCL in detail.
(b) Explain – class concepts in Visual-C#.

OR

- (b) Write a note on Windows Form life cycle. (6)
Q-4 (a) List and explain any three common controls of windows application in C#. (6)
(b) Explain switch and foreach statements with an example. (6)

OR

- Q-5 (a) Discuss different dialog controls along with their uses in C#.NET. (6)
(a) Explain the concept 1-dimensional, 2-dimensional and Jagged array by taking suitable example. (6)
(b) Draw and explain ADO.NET architecture. (6)

OR

- (b) Write down important steps while processing the data from any database using Visual-C# programming language. (6)
Q-6 (a) Explain multithreading in detail with an example. (6)
(b) What are custom controls? Write steps to include a custom control in windows application project. (6)

OR

- (b) What is Exception? Explain try..catch statement with an example. (6)

SARDAR PATEL UNIVERSITY

MASTER OF COMPUTER APPLICATIONS (MCA)

SEMESTER - III

PS03CMCA03 (THE .NET TECHNOLOGY)

11TH APRIL, 2017

Marks : 70

Time : 11:00 a.m. to 2:00 p.m.

Note : Answers of all the questions (including multiple choice questions) should be written in the provided answer book only.

Q-1 Pick up the most appropriate answer from the given alternatives and write in your answer book. (8)

- (i) The full form of CLR is _____.
 [A] Common Language Runtime [B] Costly Language Runtime
 [C] Common Load Runtime [D] Creative Language Runtime
- (ii) _____ means an array of arrays.
 [A] Multidimensional [B] Jagged
 [C] Multinational [D] None of these
- (iii) Which one of the following is not a property of form object?
 [A] WindowState [B] Name [C] MultiLine [D] None of these
- (iv) One can change the caption of a label control, using its _____ property.
 [A] Label [B] Text [C] TextBox [D] Caption
- (v) The default time interval of timer control is _____.
 [A] 100ms [B] 500ms [C] 1s [D] None of these
- (vi) The extension of MSSQL service based database is _____.
 [A] .mdf [B] .sdf [C] .mdb [D] .accdb
- (vii) In ADO.NET DataReader provides _____ direction of approach.
 [A] backward [B] forward [C] both A & B [D] None of these
- (viii) _____ is the extension of WPF Window Form.
 [A] .XAML [B] .WPF [C] .CTS [D] .FRM

Q-2 Attempt the following: (ANY SEVEN)

(14)

- I. State the major advantages of using Visual-C#.
- II. List logical operators of C#.net and explain in one line.
- III. Differentiate : class and structure.
- IV. Give advantages of using StringBuffer over String class.
- V. What is DataGridView control? Write down major benefits of using it.
- VI. Differentiate : ExecuteReader and ExecuteScalar.
- VII. Differentiate : ListBox control and ComboBox control.
- VIII. Write full-form of : LINQ, CLR, CTS and BCL.
- IX. What is Data Adapter? How can we fill data into Dataset using Data Adapter?

(Contd..)/2

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(Page # 2)

- Q-3 (a) Explain .Net Framework in detail along with its diagram.
(b) List and explain in detail the loops of C#.

OR

- (b) Write a note on windows form life cycle.

- Q-4 (a) List and explain any three common controls of windows application in C#.
(b) Explain switch and foreach statements with an example.

OR

- (b) Discuss different dialog controls along with their uses in C#.NET.

- Q-5 (a) Explain the concept of 1-dimensional, 2-dimensional and Jagged array by taking suitable example.
(b) Draw and explain ADO.NET architecture.

(6)

- (b) Write down important steps while processing the data from any database using Visual-C# programming language.

- Q-6 (a) Explain multithreading in detail with an example.
(b) What are custom controls? Write steps to include a custom control in windows application project.

(6)

(6)

(6)

- (b) Write a note on WPF.

OR

--*-*-*

(18)

SARDAR PATEL UNIVERSITY

MASTER OF COMPUTER APPLICATIONS (MCA)

SEMESTER - III

PS03CMCA03 (THE .NET TECHNOLOGY)

24TH NOVEMBER, 2017

Marks : 70

Time : 11:00 a.m. to 2:00 p.m.

Note : Answers of all the questions (including multiple choice questions) should be written in the provided answer book only.

Q-1 Pick up the most appropriate answer from the given alternatives and write in your answer book. (8)

- (i) The code, which is developed in .NET framework is known as _____ code.
 [A] managed [B] unmanaged [C] dead [D] solid
- (ii) Which ONE of the following operators can be used to concatenate two or more String objects?
 [A] + [B] ||
 [C] & [D] None of these
- (iii) Which one of the following is not a property of form object?
 [A] WindowState [B] Name [C] MultiLine [D] None of these
- (iv) One can change the title of a form object, using _____ property.
 [A] Icon [B] Text [C] Data [D] Caption
- (v) _____ keyword is used to prevent the class from being inherited from other classes.
 [A] sealed [B] static [C] abstract [D] partial
- (vi) The data members of a class by default are _____.
 [A] public [B] private [C] protected [D] None of these
- (vii) In ADO.NET DataReader provides _____ direction of approach.
 [A] backward [B] forward [C] both A & B [D] None of these
- (viii) A _____ is a reference type variable that use to holds the reference to a method.
 [A] pointer [B] generic [C] delegate [D] None of these

Q-2 Attempt the following: (ANY SEVEN) (14)

- I. Explain in brief about Console Application.
- II. Differentiate : CheckBox control and RadioButton control.
- III. Differentiate : Class and Structure.
- IV. Define the term 'Partial Class' with an example.
- V. Write any four keywords used in Visual-C#.NET.
- VI. Write full-form of : WPF, BCL, CLR and SDI.
- VII. List logical operators of C#.NET and explain in one line.
- VIII. What is Data Adapter? How can we fill data into Dataset using Data Adapter?
- IX. Define the meaning of 'Namespace' with an example.
- X. Explain the use of 'Ternary Operator' with an example.

(Contd./2)

(19)

[72/A23]

Time : 2:00 p.m. to 5:00
Note : Answers of
questions of
Q-1 Pick up the most an-
swer
(i) The

(Page # 2)

- Q-3 (a) Draw .Net Framework and explain CLR and BCL in detail.
(b) Explain – class concepts in Visual-C#.

(6)
(6)

OR

- (b) Write a note on Windows Form life cycle.

(6)
(6)
(6)

- Q-4 (a) List and explain any three common controls of windows application in C#.
(b) Explain switch and foreach statements with an example.

OR

- (b) Discuss different dialog controls along with their uses in C#.NET.

(6)
(6)

- Q-5 (a) Explain the concept 1-dimensional, 2-dimensional and Jagged array by taking suitable example.
(b) Draw and explain ADO.NET architecture.

(6)

OR

- (b) Write down important steps while processing the data from any database using Visual-C# programming language.

(6)
(6)
(6)

- Q-6 (a) Explain multithreading in detail with an example.
(b) What are custom controls? Write steps to include a custom control in windows application project.

(6)
(6)

OR

- (b) What is Exception? Explain try..catch statement with an example.

(6)

--*-*-*

Q-1 Pick up the most appropriate answer from the given alternatives and write in your answer book.

- (i) The full form of BCL is _____
[A] Base Code Library [B] Base Class Library
[C] Basic Code Library [D] Basic Class Library
- (ii) _____ Class cannot be inherited
[A] const [B] sealed [C] static [D] None of these
- (iii) _____ property of form is set to true, in order to make it a MDI parent form.
[A] IsMdiContainer [B] IsMdiParent [C] IsMdiChildren [D] IsParent
- (iv) The _____ namespace is required in order to create SqlConnection object.
[A] System.Data.SqlClient [B] System.sqlData.Client
[C] System.Sql.SqlConnection [D] System.Data
- (v) Consider the following C#.NET code:

```
StringBuilder s1 = new StringBuilder("Satyam*Shivam*Sundaram");
s1.Replace("am", "$");
```

What will be the content of string s1 after the execution of above code?
[A] Saty\$*Shiv*\$Sundar\$ [B] Saty\$*Shiv\$*Sundar\$
[C] Satyam\$*Shivam\$*Sundaram\$ [D] None of these
- (vi) Which ONE of the following properties is used to set the title of a Window's form object?
[A] Text [B] Caption [C] Label [D] Title
- (vii) DataAdapter can traverse data in _____ approach.
[A] backward [B] forward [C] both A & B [D] None of these
- (viii) _____ is the extension of WPF Window Form.
[A] .XAML [B] .WPF [C] .CTS [D] .FRM

(14)

Q-2 Attempt the following: (ANY SEVEN)

- I. What is Visual C#.NET? State the major advantages of using Visual-C#.
- II. Differentiate : class and strut.
- III. Define the terms 'Boxing' and 'Unboxing'.
- IV. Explain any four C#.NET operators with its purpose and example.
- V. Explain foreach loop with an example.



(P.T.O.) (Contd./2)

- 2 |
- VI. Differentiate : StringBuffer over String class.
VII. What is Partial Class? Give an example of it.
VIII. List out names of any four Dialog controls of C#.NET.
IX. Write full-form of : MDI, CLR, JIT and MSIL. (6)
- Q-3 (a) Explain - .Net Framework architecture with its diagram. (6)
(b) Explain the general skeleton/structure of C# program with an example.
- OR (6)
- (b) Discuss the Life Cycle of Windows Form. (6)
- Q-4 (a) Explain Timer, ListBox and GroupBox controls with their major properties and events. (6)
(b) Explain multi dimensional and jagged array in detail with an example. (6)
- OR (6)
- (b) Define the term 'Inheritance'. Explain various types of inheritance supported in C#.NET with an example. (6)
- Q-5 (a) Explain ADO.NET architecture in detail. Why ADO.NET is used in .NET? (6)
(b) Explain DataSet, DataReader and DataAdapter objects of ADO.NET. (6)
- OR (6)
- (b) Explain the use of SqlConnection and SqlCommand classes with an example. (6)
- Q-6 (a) Explain – 'Multithreading using C#.NET'. (6)
(b) Explain – 'User defined controls in C#.NET'. (6)
- OR (6)
- (b) What is WPF? Why is it used? State various advantages of using WPF. (6)

2018

G. H. Patel P. G. Department of Computer Science and Technology
Master of Computer Applications (MCA)
Semester III Internal Examinations
PS03CMCA21 Object Oriented Programming using Java
Monday, 17th September, 2018

Time: 11:00 am to 12:30 pm

Max. Marks: 30

Q-1 Answer the following questions:

[4]

1. Who was the main initiator of the Java programming language project?
2. Which is the latest version of Java SE?
3. What is the full form of WORA?
4. Which character set and encoding are used by Java?

Q-2 Answer the following questions (ANY THREE):

[6]

1. Explain the terms: i. class ii. reference
2. Differentiate between static members and non-static members.
3. Why should we never compare objects using the == operator?
Which is the proper way of comparing objects?
4. What is wrong with the following code? Write its proper equivalent.
`String fullName = firstName + " " + middleName + " " + lastName;`

Q-3 Answer the following questions:

[5]

A. Write a short note on inheritance in Java. Explain IS_A and HAS_A relationships.

[5]

B. Write a short note on arrays in Java. Describe the different types of arrays and the common operations on arrays with examples.

OR

B. Write a Java program that accepts two double type values (operands) and a binary operator (+, -, *, / or %). The program should perform the operation corresponding to the operator on the operands and display the result.

Q-4 Answer the following questions:

[5]

A. Write an outline of (steps for) developing a small Java Swing program with key elements of the code along with short explanation.

B. Explain the following classes in brief:

`InputStream, OutputStream, InputStreamReader,
OutputStreamReader, BufferedReader, BufferedWriter`

OR

B. Explain applets in brief. Differentiate between AWT and Swing.

[5]

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B. Write a
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2017

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SARDAR PATEL UNIVERSITY
MASTER OF COMPUTER APPLICATIONS (MCA)

Semester - III, External Examinations

PS03CMCA02 (OBJECT ORIENTED PROGRAMMING USING JAVA)

Wednesday, November 22th, 2017

Max. Marks: 70

Time: 11:00 am to 2:00 pm

[8]

Q-1 Choose the most appropriate option for each question:

1. Reference-type fields are initialized by default to _____.

- | | | | |
|----|------|----|---------------|
| A. | Zero | B. | Void |
| C. | Null | D. | None of these |

2. _____ can be defined as the process where one object acquires the properties of another.

- | | | | |
|----|---------------|----|---------------|
| A. | Inheritance | B. | Polymorphism |
| C. | Encapsulation | D. | None of these |

3. _____ is the default priority of a thread.

- | | | | |
|----|----|----|---------------|
| A. | 1 | B. | 5 |
| C. | 10 | D. | None of these |

4. An _____ is a collection of abstract methods in JAVA.

- | | | | |
|----|-------------|----|---------------|
| A. | Enumeration | B. | Interface |
| C. | Generics | D. | None of these |

5. _____ are required to convert queries into a form that a particular database can interpret.

- | | | | |
|----|-------------------|----|----------------|
| A. | JDBC driver | B. | Database layer |
| C. | Both of the above | D. | None of these |

6. _____ requires less overhead than multitasking processing.

- | | | | |
|----|------------------|----|-----------------|
| A. | Multiprogramming | B. | Multiprocessing |
| C. | Multithreading | D. | None of these |

7. _____ exception is caused when a conversion between strings and number fails.

- | | | | |
|----|-----------------------|----|------------------------|
| A. | StringFormatException | B. | ClassNotFoundException |
| C. | NumberFormatException | D. | None of these |

8. Every java program includes at least _____ class definition.

- | | | | |
|----|-------|----|---------------|
| A. | One | B. | Two |
| C. | Three | D. | None of these |



Page 1 of 2

[14]

Q-2 Answer the following questions (Any Seven):

1. Differentiate between: Applet and Java Application
2. List different types of Java Programs.
3. Draw the labeled diagram showing life cycle of a thread.
4. Write the advantages and disadvantages of AWT.
5. Differentiate between: Lightweight and Heavyweight GUI components.
6. Write the use of enum keyword in JAVA.
7. What is an Exception? List any four exceptions.
8. List and explain any four methods of Resultset Interface.
9. List any four methods of the Matcher class.

Q-3 Answer the following questions:

- A. Discuss Interfaces in Java with code snippet. [6]
 B. Write a short note on HTML Applet tag. [6]

OR

- B. Explain File Handling with code snippet. [6]

Q-4 Answer the following questions:

- A. Write a brief note on features of Java [6]
 B. Discuss Delegation Event Model in brief. [6]

OR

- B. Explain any three Swing GUI Components in detail. [6]

Q-5 Answer the following questions:

- A. Write a short note on JDBC-Net Pure-Java driver(Type 4). [6]
 B. What is Socket Programming? Discuss the steps involve when establishing a TCP connection between two computers using socket. [6]

OR

- B. Draw and explain Life cycle of an Applet Program in JAVA. [6]

Q-6 Answer the following questions:

- A. Discuss different methods of Statement interface used to send static query to a database. [6]
 B. Explain StringTokenizer class of java.util package in detail. [6]

OR

- B. Discuss Runnable interface used for thread creation with example. [6]

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2018

Total number of printed pages: 2

Seat No. _____

SARDAR PATEL UNIVERSITY
MASTER OF COMPUTER APPLICATIONS
SEMESTER - III
COURSE PS03CMCA21 (Object Oriented Programming Using Java)
Tuesday November 20th 2018

Max. Marks: 70

Time: 2:00 pm to 5:00 pm

[8]

Q-1 Choose the most appropriate option for each question:

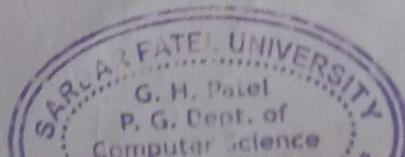
1. Integer is -
A) A reference B) A primitive type
C) A wrapper class D) None of these
2. Which of the following is not a part of JRE?
A) Java compiler B) API class libraries
C) Java interpreter D) None of these
3. If class A HAS_A class B, then
A) A should inherit from B B) A should contain B
C) B should inherit from A D) B should contain A
4. The number of elements in an array ary can be accessed using -
A) ary.size() B) ary.size
C) ary.length() D) ary.length
5. Which method is used to register an event handler for a JButton?
A) addOnClickListener B) addClickListener
C) addEventListener D) addActionListener
6. To execute an insert statement, _____ method of Statement is used.
A) executeUpdate() B) executeNonQuery()
C) executeQuery() D) executeInsert()
7. The Scanner class can be initialized to accept input from the keyboard using -
A) new Scanner(new InputStreamReader(System.in))
B) new Scanner(new BufferedReader(System.in))
C) new Scanner(System.in)
D) new Scanner(InputStream)
8. A class whose objects need to be serialized must -
A) implement Serialized B) implement Serializable
C) extend Serialized D) extend Serializable

[14]

Q-2 Answer the following questions (Any Seven):

1. What was the first name for the Java programming language? For what purpose was it originally designed?
2. What are the advantages of Java over C++?
3. List the primitive data types in Java that hold integers.
4. Write java language statements to convert a string str1 into an integer n1 and an integer n2 into a string str2.
5. Explain the default constructor in Java. Which keyword is used to invoke parent class constructor from the subclass constructor?

(1)



C.P.T.O.) page 1 of 2

6. Define abstract methods and static methods.
7. What is the use of the StringBuilder and StringBuffer classes? What is the difference between them?
8. List the events in the lifecycle of a Java applet.
9. Which class provides common implementation for operations on a set of values? Which package provides the Date class?

Q-3

- A. Explain the terms JRE, JDK, JVM. List the different editions of Java. Which is the official reference implementation of the JDK? [6]
- B. Explain the syntax of class inheritance, definition of interfaces and their use with suitable examples. [6]

OR

- B. Describe any six methods of the String class in short. [6]

Q-4

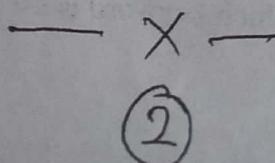
- A. Name and explain in brief any six classes from the java.io package. [6]
 - B. Write a short note on exceptions and exception handling in Java. [6]
- OR
- B. Write the syntax for the following in the context of JDBC: [6]
Defining a JDBC URL, Loading a JDBC driver, creating connection, creating statement, executing different types of queries

Q-5

- A. Write a short note on AWT and Swing. Differentiate between the two. [6]
 - B. Explain any three classes from the java.util package in brief. [6]
- OR
- B. Write a Java program that accepts a student's 7-character PID. The first character in the PID may be M, I or L for MCA, Msc (IT) and PGDCA respectively. The second character may be G or S indicating grant-in-aid or self-financed programme. The next two digits indicate the year of entry, while the last three digits contain a unique serial number. The program should display these components of the PID as per the following sample format:
Programme: MCA Batch: Grant-in-aid Year of Entry: 2017 Serial No. 103

Q-6

- A. Write a short note on multithreading in Java. [6]
 - B. Explain encapsulation with suitable figures and examples. [6]
- OR
- B. Write a short note on network programming in Java. [6]



七

G H Patel Post Graduate Department of Computer Science and Technology
Sardar Patel University

MCA - Sem III Internal Examinations

MCA - Sem III Internal Examinations
PS03CMCA02 (OBJECT ORIENTED PROGRAMMING USING JAVA)
Tuesday, 15th September, 2015

Time: 11:00 AM to 12:30 PM

Max. Marks: 30

- Q-1 Choose the most appropriate option for each question:

 - a. Java uses _____ code to represent characters.
 - a>ASCII
 - b> Character
 - c>Bytecode
 - d>Unicode
 - b. Which of these methods can be used to output a string in an applet?
 - a> display()
 - b> print()
 - c> drawString()
 - d>transient()
 - c. Which of these packages contain all the Java's built in exceptions?
 - a>java.io
 - b> java.util
 - c>java.lang
 - d> java.net
 - d. Which of these methods will be invoked if a character is entered?
 - a> keyPressed()
 - b>keyReleased()
 - c>keyTyped()
 - d> keyEntered()

14

- Q-2 Answer the following questions: (Any Five)**

 - a. Differentiate between: JAVA Application and Applet.
 - b. List all the inbuilt Java Packages.
 - c. Explain Wrapper classes in detail.
 - d. Draw a labeled diagram of applet's life cycle.
 - e. Discuss the use of final and finalize.
 - f. Differentiate between: AWT and Swing.

[10]

- Q-3 Answer the following questions:** [16]

 - Write a note on features of JAVA.
 - Explain Exception Handling with code snippet.
 - Draw the labeled diagram of Event Handling mechanism. Explain any two event classes.
 - Discuss different formats of getConnection() method of Connection interface with code snippet.

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G H Patel P G Department of Computer Science and Technology
 Sardar Patel University
 Master of Computer Applications (MCA)
 MCA-III Semester
 PS03CMCA03 (The .NET Technology)
 16 September, 2015

Marks : 30

Time : 1½ Hours

[4]

- Q-1 [A] Choose the most appropriate answer among the given options.
- Which one of the following languages is simple, powerful, type-safe, and object-oriented?
 [A] C [B] C++ [C] Visual-C# [D] None of these
 - Which one of the followings is not a property of form object?
 [A] Name [B] Icon [C] MultiLine [D] WindowState
 - A _____ expression is an anonymous function that you can use to create delegates or expression tree types.
 [A] lamda [B] regular [C] ternary [D] None of these
 - Object is an _____ of a class.
 [A] copy [B] instance [C] child [D] None of these

[6]

[B] Do as directed (ANT THREE) :

- Differentiate : class and structure.
- Write full-form of : CLR, LINQ, CLS and MSIL.
- Define the term 'Namespace' with an example.
- What is Property? Which keyword is used to define the value being assigned by the set accessor?
- Define the term 'Unboxing' with an example.

[5]

Q-2 [A] What is Visual-C#? Explain the skeleton of Visual-C# program.

[5]

[B] Write down features of Object Oriented Programming concept. Explain any one of them with the context of Visual-C# language.

[5]

OR

[B] Explain Listbox and Timer controls.

[5]

Q-3 [A] Explain switch and foreach statements with an example.

[5]

[B] Write down important steps while processing the data from any database using Visual-C# programming language.

[5]

OR

[B] Explain ADO.NET architecture.

[5]

CLR :- Common Lang. Runtime
 CLS :- Common Lang. Specification
 MSIL :- Microsoft Intermediate Lang.

G. H. Patel P. G. Department of Computer Science & Technology
 Master of Computer Application

Internal Examination
 PS03CMCA02 (Object Oriented Programming Using Java)

Wednesday, 11th September, 2013

Time: 11:00 a.m. to 12:30 p.m.

Total Marks: 30

Q-1

- (a) Explain the significance of bytecode and JVM in the key features of Java. [3]
- (b) Explain the role of *this*, *super* and *final* keywords in inheritance. [3]
- (c) Write a Java program that demonstrate the method overriding. [3]
- (d) Describe the BufferedReader class with the code snippet. [2]
- (e) Write a code snippet showing the example of ArrayIndexOutOfBoundsException exception. [2]
- (f) Explain any four string handling methods in brief. [2]

Q-2

- (a) Explain any two mouse handling events with example. [2]
- (b) Explain the border layout. [2]
- (c) Discuss the following swing components with their properties and events:
 - i. JList
 - ii. JTree
- (d) Explain any two JDBC drivers in detail. [3]
- (e) Write a code snippet for establishing connection to MySQL database using JDBC. [2]
- (f) Explain in detail the FileInputStream class with example. [2]

30

**G. H. Patel P. G. Department of Computer Science and Technology
Master of Computer Applications (MCA)
Semester III Internal Examinations
PS03CMCA21 Object Oriented Programming using Java
Monday, 17th September, 2018**

Time: 11:00 am to 12:30 pm

Max. Marks: 30

Q-1 Answer the following questions:

1. Who was the main initiator of the Java programming language project?
2. Which is the latest version of Java SE?
3. What is the full form of WORA?
4. Which character set and encoding are used by Java?

Q-2 Answer the following questions (ANY THREE):

1. Explain the terms: i. class ii. reference
2. Differentiate between static members and non-static members.
3. Why should we never compare objects using the == operator?
Which is the proper way of comparing objects?
4. What is wrong with the following code? Write its proper equivalent.

`String fullName = firstName + " " + middleName + " " + lastName;`

Q-3 Answer the following questions:

- A. Write a short note on inheritance in Java. Explain IS_A and HAS_A relationships. [5]
 - B. Write a short note on arrays in Java. Describe the different types of arrays and the common operations on arrays with examples. [5]
- OR**
- B. Write a Java program that accepts two double type values (operands) and a binary operator (+, -, *, / or %). The program should perform the operation corresponding to the operator on the operands and display the result. [5]

Q-4 Answer the following questions:

- A. Write an outline of (steps for) developing a small Java Swing program with key elements of the code along with short explanation. [5]
 - B. Explain the following classes in brief:
`InputStream, OutputStream, InputStreamReader, OutputStreamReader, BufferedReader, BufferedWriter` [5]
- OR**
- B. Explain applets in brief. Differentiate between AWT and Swing. [5]

SARDAR PATEL UNIVERSITY
MASTER OF COMPUTER APPLICATIONS (MCA)
MCA-IV SEMESTER
PS04CMCA25 (PRACTICAL)
28TH MARCH, 2019

Marks : 70

Time : 3 Hours

- Q-1 ✓ Design a registration page to insert different field values (like salesperson_id, salesperson_name, salesperson_address, salesperson_city, salesperson_pincode, salesperson_email, salesperson_mob_no) in salesperson.dat for Salesperson Management System.
- ✓ a. Save project as sms_seatno.
 - ✓ b. Create file salesperson.dat in sms_seatno.
 - ✓ c. Also write PHP code to delete record from a file. You should ask user to enter record number for this operation.

You can add additional PHP (if required).

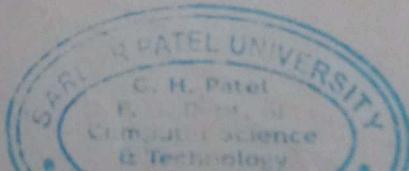
- Q-2 The file /etc/passwd is a system file that contains information about users of the system having the following fields separated by the : (colon) character: [20]
username, encrypted_password, user_id, primary_group, description, home_directory, default_shell
- Write a SINGLE Linux shell script annnn.sh (where nnnn is your four-digit Exam Seat No) to perform the following operations. Use echo "---- a1 ----", echo "---- a2 ----", etc. before each command to separate subquestions.
- a1. Count the number of users whose default shell is /bin/false.
 - a2. Display the user id and home directory of the user named backup.
 - a3. List all the usernames and user id for those users whose user id is same as primary group.
 - a4. Output all the lines of the file with false replaced by true.
 - a5. Output the number of users, sum of their user ids and the average user id.

- Q-3 Create a new blank Web Application (q3nnnn, (where nnnn indicate your seat no.) using ASP.NET (Visual C#) to perform the following: [20]
- ✓ Add new master page (ABCD.master) to your application and assign the title of your application as **STUDENT INFORMATION SYSTEM**.
 - ✓ Add three web pages to your application viz. [1] frmInformation.aspx [2] frmRegistration.aspx (default page) and [3] frmDataSuccess.aspx
 - ✓ Add menu control in Master Page and provide appropriate menu items (for information and registration).
 - ✓ Add SQL database and create REG table to store registration details (refer Resources).
 - Design appropriate well-designed interface for student registration (refer Resources). Using **frmRegistration.aspx** page, insert student registration data into REG table. When a button is clicked to insert data, after inserting data, **frmDataSuccess.aspx** should be navigated.
 - You may choose your own ideas to design an interface and it should be user-friendly. Wherever, names are not specified, you can choose your own names.

Q-4 Viva-Voce

[10]

*** THE END ***



MCA-III 2013

E483

SARDAR PATEL UNIVERSITY

Master of Computer Applications (MCA)

Semester - III External Examination

PS03CMCA02 (Object Oriented Programming using JAVA)

18th November, 2013

No. of printed pages: 1

32

Max Marks: 70

Time: 10:30 a.m. to 1:30 p.m.

Note: Write answers to both the sections in separate answer sheets.
Students have to tie both the sections separately.

SECTION - I

Q-1 a. List and discuss the key features of Java. [4]

b. Define the following:

- i. Bytecode
- ii. JVM
- iii. JIT
- iv. Classpath

c. Explain any one stream reader class in detail with example. [4]

Q-2 a. Differentiate method overloading and method overriding by explaining in detail with the code snippet. [4]

b. Draw the diagram showing hierarchy of Exception class. Also explain any one type of exception in detail. Also specify the code snippet for the same. [4]

c. How Java does support multiple inheritance? Explain the concept in detail with example. [4]

Q-3 a. Differentiate the following: [4]

- i. AWT and Swing
- ii. JComboBox and JList components

b. Discuss the keyboard event handling in detail with the methods. [4]

c. Explain Flow layout in detail with code snippet. [4]

SECTION - II

Q-4 a. Explain type-3 and type-4 JDBC drivers. [4]

b. Discuss how to connect Java application with oracle step by step. Also specify the code snippet wherever required. [4]

c. Explain FileInputStreamReader in detail with example. [4]

Q-5 a. Explain in detail the <List> collection. [4]

b. Discuss in detail the Pattern and Matcher classes with important methods. [4]

c. Explain StringTokenizer member of java.util package in detail. [4]

Q-6 a. Discuss the socket programming in detail. [4]

b. List different methods used in multithreading. Explain any two of them in detail with code snippet. [4]

c. Write a Java program that serializes the class data. [3]

2020

31. Choose the most appropriate option for each question.

JAN
34

Q2. Answer the following questions (Any Seven):

- a. Write down history of java in brief.
- b. What do you mean by auto boxing and unboxing?
- c. List at least four features of NetBeans IDE.
- d. Show the steps involved in execution of java program.
- e. Draw the graph showing the applet life cycle.
- f. List at least four methods of StringTokenizer class.
- g. What is the use of super keyword in java?
- h. List at least four properties of JComboBox component.
- i. What is serialization?

Q3. Answer the following questions:

- a. Explain at least three string handling methods with example.
- b. Explain various ways to read input from user in java with sample code snippet.

OR

- b. Discuss the concept of abstract classes with example.

[6]

[6]

[6]

Q4. Answer the following questions:

- a. Explain various keyboard event handling methods in detail.
- b. Write a note on interfaces with sample code snippet.

OR

- What is exception? Draw the diagram showing class hierarchy for Exception class.
Explain exception handling in detail with example.

[6]

Q5. Answer the following questions:

- a. Explain any one member of Collection Framework in detail.
- b. What is JDBC? Discuss various JDBC drivers in detail.

[6]

[6]

- b. Write a note on file handling in java with example.

[6]

Q6. Answer the following questions:

- a. What do you mean by thread? Explain various ways to create thread in java with example.
 - b. Explain Socket programming. Also list and explain in brief various constructors of ServerSocket class.
- OR
- b. Explain any two members of java.util package with at least three methods used for them.

[6]

[6]

[6]

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SARDAR PATEL UNIVERSITY
MASTER OF COMPUTER APPLICATIONS (MCA)
Semester - III External Examinations
PS03CMCA02 (OBJECT ORIENTED PROGRAMMING USING JAVA)
Friday November 20th, 2015

Max. Marks: 70

Time: 11:00am to 2:00pm

[8]

Q-1 Choose the most appropriate option for each question:

1. Which of the following is NOT a key component of object oriented programming?

- | | | | |
|----|--------------|----|---------------|
| A. | Inheritance | B. | Encapsulation |
| C. | Polymorphism | D. | Parallelism |

2. An _____ class cannot be instantiated.

- | | | | |
|----|----------|----|---------------|
| A. | abstract | B. | Inherited |
| C. | final | D. | None of these |

3. Which of these keywords is used by an interface to inherit other interface?

- | | | | |
|----|------------|----|------------|
| A. | import | B. | Import |
| C. | implements | D. | Implements |

4. Which of these keywords is used to refer to member of base class from a sub class?

- | | | | |
|----|--------|----|---------|
| A. | super | B. | this |
| C. | extent | D. | extends |

5. Which of these keywords can be used to prevent Method overriding?

- | | | | |
|----|----------|----|-----------|
| A. | static | B. | final |
| C. | constant | D. | protected |

6. _____ return type of hasNext() method of an iterate.

- | | | | |
|----|---------|----|---------|
| A. | Int | B. | char |
| C. | Integer | D. | boolean |

7. The Random class uses a _____ bit seed, which is modified using a linear congruent formula.

- | | | | |
|----|----|----|----|
| A. | 32 | B. | 16 |
| C. | 64 | D. | 8 |

8. _____ metacharacter is used in regular expressions to match 0 or more occurrences of preceding expression.

- | | | | |
|----|---|----|----|
| A. | * | B. | * |
| C. | - | D. | \$ |

Q-2 Answer the following questions (Any Seven):

[14]

1. Differentiate between: AWT and Swing.
2. Explain Java Virtual Machine.
3. Draw the labeled diagram showing life cycle of a thread.
4. Discuss the use of final in Java.
5. Write a brief note on Servlets.
6. Explain TCP and UDP in brief.



Page 1 of 2

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(2)

7. What is an assertion?
8. Explain drawRectangle() method with example.
9. What is an Interface?

Q-3 Answer the following questions:

- A. Discuss Exception Handling with code snippet. [6]
B. What is a wrapper class? Explain different types of wrapper classes. [6]
- OR
- B. Explain Reader and Writer Streams with code snippet. [6]

Q-4 Answer the following questions:

- A. Write a brief note on different types of Java Programs. [6]
B. Explain Event Handling mechanism with diagram. [6]
- OR
- B. What is a Layout Manager? Explain any three Swing Layouts in detail. [6]

Q-5 Answer the following questions:

- A. Write a brief note on different types JDBC drivers. [6]
B. Discuss the ServerSocket class constructors. List and Explain any four methods of ServerSocket class. [6]
- B. What is a Thread? Explain any two methods for creation of Threads with code snippet. [6]

Q-6 Answer the following questions:

- A. Draw and explain the life cycle of Applet. [6]
B. Explain ArrayList Class with code snippet.
- OR
- B. Discuss the use of Pattern and Matcher class with code snippet. [6]

3

37.

SARDAR PATEL UNIVERSITY
MASTER OF COMPUTER APPLICATIONS (MCA)
Semester - III External Examinations
PS03CMCA02 (OBJECT ORIENTED PROGRAMMING USING JAVA)

Saturday November 19th, 2016

Max. Marks: 70

Time: 11:00am to 2:00pm

[8]

Q-1 Choose the most appropriate option for each question:

1. Which class cannot be subclassed (or extended) in java?
A. Abstract class B. Final class
C. Parent class D. None of these
2. Java Source Code is compiled into _____.
A. .obj B. .exe
C. Source code D. Byte Code
3. Which type of inheritance is not supported by java?
A. Single B. Multiple
C. Multilevel D. Hierarchical
4. In java a thread can be created by _____.
A. Extending the thread class. B. Implementing Runnable interface.
C. Both of the above D. None of these
5. Full form of AWT is _____.
A. Advance Window Toolkit B. Abstract Window Toolkit
C. Accent Window Toolkit D. Absence Window Toolkit
6. _____ event will be called automatically when a JButton is clicked.
A. clicked() B. buttonClicked()
C. actionClicked() D. actionPerformed()
7. The _____ package is to be imported for executing SQL statements from Java applications.
A. java.sql B. java.awt
C. java.jdbc D. None of these
8. The _____ sends the request from Java application to the database.
A. Application layer B. ResultSet
C. JDBC driver D. None of these

[14]

Q-2 Answer the following questions (Any Seven):

1. List Java features.
2. List any two methods of String class.
3. What is serialization?
4. What is difference between Array & ArrayList?
5. Define: Boxing & Unboxing.
6. Draw the applet lifecycle.
7. Differentiate between AWT and Swing.
8. What is JDBC?
9. List various keyboard events available in Swing.

[P.T.O.]

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Q-3 Answer the following questions:

- A. Discuss Exception Handling with code snippet.
- B. Discuss polymorphism with an example.

OR

- B. Explain Generics in short with example.

Q-4 Answer the following questions:

- A. Write a short note on four types of JDBC drivers.
- B. Explain Statement and ResultSet interface of JDBC.

OR

- B. Write down steps to connect to MySQL database using JDBC with sample code snippet.

[6]
[6]

[6]

Q-5 Answer the following questions:

- A. Explain JTextArea and JPasswordField components with its properties and methods with sample code snippet.
- B. Explain JList and JComboBox components with its properties and methods with sample code snippet.

OR

- B. List various layouts managers available in Swing. Explain any two of them in detail.

[6]

Q-6 Answer the following questions:

- A. Draw and explain the life cycle of Thread.
- B. Explain ArrayList Class with code snippet.

OR

- B. Discuss any two types of Inheritance with an example.

[6]
[6]

[6]

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SARBAR PATEL UNIVERSITY
MASTER OF COMPUTER APPLICATIONS (MCA)
 Semester - III External Examinations
PS80CMCA82 (OBJECT ORIENTED PROGRAMMING USING JAVA)
 Wednesday, November 22nd, 2017

Time: 11:00 am to 2:00 pm

Max. Marks: 70

Q-1 Choose the most appropriate option for each question: [8]

1. Reference-type fields are initialized by default to _____.

A.	Zero	B.	Void
C.	Null	D.	None of these
2. _____ can be defined as the process where one object acquires the properties of another.

A.	Inheritance	B.	Polymorphism
C.	Encapsulation	D.	None of these
3. _____ is the default priority of a thread.

A.	1	B.	5
C.	10	D.	None of these
4. An _____ is a collection of abstract methods in JAVA.

A.	Enumeration	B.	Interface
C.	Generics	D.	None of these
5. _____ are required to convert queries into a form that a particular database can interpret.

A.	JDBC driver	B.	Database layer
C.	Both of the above	D.	None of these
6. _____ requires less overhead than multitasking processing.

A.	Multiprogramming	B.	Multiprocessing
C.	Multithreading	D.	None of these
7. _____ exception is caused when a conversion between strings and number fails.

A.	StringFormatException	B.	ClassNotFoundException
C.	NumberFormatException	D.	None of these
8. Every java program includes at least _____ class definition.

A.	One	B.	Two
C.	Three	D.	None of these

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Q-2 Answer the following questions (Any Seven):

1. Differentiate between: Applet and Java Application
2. List different types of Java Programs.
3. Draw the labeled diagram showing life cycle of a thread.
4. Write the advantages and disadvantages of AWT.
5. Differentiate between: Lightweight and Heavyweight GUI components.
6. Write the use of enum keyword in JAVA.
7. What is an Exception? List any four exceptions.
8. List and explain any four methods of Resultset Interface.
9. List any four methods of the Matcher class.

Q-3 Answer the following questions:

- A. Discuss Interfaces in Java with code snippet.
B. Write a short note on HTML Applet tag.

OR

- B. Explain File Handling with code snippet.

[6]

[6]

[6]

[6]

Q-4 Answer the following questions:

- A. Write a brief note on features of Java
B. Discuss Delegation Event Model in brief.

OR

- B. Explain any three Swing GUI Components in detail.

[6]

[6]

Q-5 Answer the following questions:

- A. Write a short note on JDBC-Net Pure-Java driver(Type 4).

B. What is Socket Programming? Discuss the steps involve when establishing a TCP connection between two computers using socket.

OR

- B. Draw and explain Life cycle of an Applet Program in JAVA.

[6]

Q-6 Answer the following questions:

- A. Discuss different methods of Statement interface used to send static query to a database.

- B. Explain StringTokenizer class of java.util package in detail.

OR

- B. Discuss Runnable interface used for thread creation with example.

[6]

[6]

[6]

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[65/A-26]
Seat No. 5026

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Total number of printed pages: 2

SARDAR PATEL UNIVERSITY
MASTER OF COMPUTER APPLICATIONS
SEMESTER - III
COURSE PS03CMCA21 (Object Oriented Programming Using Java)
Tuesday November 20th 2018

Max. Marks: 70

[8]

Time: 2:00 pm to 5:00 pm

Q-1 Choose the most appropriate option for each question:

1. Integer is -
A) A reference B) A primitive type
C) A wrapper class D) None of these
2. Which of the following is not a part of JRE?
A) Java compiler B) API class libraries
C) Java interpreter D) None of these
3. If class A HAS_A class B, then
A) A should inherit from B B) A should contain B
C) B should inherit from A D) B should contain A
4. The number of elements in an array ary can be accessed using -
A) ary.size() B) ary.size
C) ary.length() D) ary.length
5. Which method is used to register an event handler for a JButton?
A) addOnClickListener B) addClickListener
C) addEventListener D) addActionListener
6. To execute an insert statement, _____ method of Statement is used.
A) executeUpdate() B) executeNonQuery()
C) executeQuery() D) executeInsert()
7. The Scanner class can be initialized to accept input from the keyboard using -
A) new Scanner(new InputStreamReader(System.in))
B) new Scanner(new BufferedReader(System.in))
C) new Scanner(System.in)
D) new Scanner(InputStream)
8. A class whose objects need to be serialized must -
A) implement Serializable B) implement Serializable
C) extend Serializable D) extend Serializable

Q-2 Answer the following questions (Any Seven):

1. What was the first name for the Java programming language? For what purpose was it originally designed?
2. What are the advantages of Java over C++?
3. List the primitive data types in Java that hold integers.
4. Write java language statements to convert a string str1 into an integer n1 and an integer n2 into a string str2.
5. Explain the default constructor in Java. Which keyword is used to invoke parent class constructor from the subclass constructor?

[14]

(P.T.O.) page 1 of 2

(1)

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[36/4-18]
Sec No -

6. Define abstract methods and static methods.
7. What is the use of the `StringBuilder` and `StringBuffer` classes? What is the difference between them?
8. List the events in the lifecycle of a Java applet.
9. Which class provides common implementation for operations on a set of values? Which package provides the `Date` class?

Q-3

- A. Explain the terms JRE, JDK, JVM. List the different editions of Java. Which is the official reference implementation of the JDK? [6]
- B. Explain the syntax of class inheritance, definition of interfaces and their use with suitable examples. [6]

OR

- B. Describe any six methods of the `String` class in short. [6]

Q-4

- A. Name and explain in brief any six classes from the `java.io` package. [6]
- B. Write a short note on exceptions and exception handling in Java. [6]

OR

- B. Write the syntax for the following in the context of JDBC:
Defining a JDBC URL, Loading a JDBC driver, creating connection, creating statement, executing different types of queries [6]

Q-5

- A. Write a short note on AWT and Swing. Differentiate between the two. [6]
- B. Explain any three classes from the `java.util` package in brief. [6]

OR

- B. Write a Java program that accepts a student's 7-character PID. The first character in the PID may be M, I or L for MCA, Msc (IT) and PGDCA respectively. The second character may be G or S indicating grant-in-aid or self-financed programme. The next two digits indicate the year of entry, while the last three digits contain a unique serial number. The program should display these components of the PID as per the following sample format:
Programme: MCA Batch: Grant-in-aid Year of Entry: 2017 Serial No. 103 [6]

Q-6

- A. Write a short note on multithreading in Java. [6]
- B. Explain encapsulation with suitable figures and examples. [6]
- B. Write a short note on network programming in Java. [6]

OR

— X —
②

42

[36/A-18]
See No _____

6. Define abstract methods and static methods.
7. What is the use of the `StringBuilder` and `StringBuffer` classes? What is the difference between them?
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- A. Explain the terms JRE, JDK, JVM. List the different editions of Java. Which is the official reference implementation of the JDK? [6]
B. Explain the syntax of class inheritance, definition of interfaces and their use with suitable examples. [6]
- OR
- B. Describe any six methods of the `String` class in short. [6]

Q-4

- A. Name and explain in brief any six classes from the `java.io` package. [6]
B. Write a short note on exceptions and exception handling in Java. [6]
- OR
- B. Write the syntax for the following in the context of JDBC; Defining a JDBC URL, Loading a JDBC driver, creating connection, creating statement, executing different types of queries [6]

Q-5

- A. Write a short note on AWT and Swing. Differentiate between the two. [6]
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- OR
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Q-6

- A. Write a short note on multithreading in Java. [6]
B. Explain encapsulation with suitable figures and examples. [6]
- OR
- B. Write a short note on network programming in Java. [6]

— X —
②

SARDAR PATEL UNIVERSITY
Master of Computer Application
Semester - IV External Examinations
PS04EMCA21 - Advanced Java Programming
15th April, 2019, Monday

Max Marks: 70

Time: 02:00 p.m. to 05:00 p.m.

[8]

Q1. Choose the most appropriate option for each question.

- i. _____ method can be used to get complete list of all parameters in the current request.
 A) request.getParameter() B) request.getParameterNames()
 C) request.getParameterValues() D) None of these
- ii. _____ returns the port number on which the request was received.
 A) request.getServerPort() B) response.getServerPort()
 C) Header.getServerPort() D) None of these
- iii. _____ is used to forward to a servlet, JSP, HTML page, and so on, on the server.
 A) RequestDispatcher.send() B) ResponseDispatcher.forward()
 C) RequestDispatcher.redirect() D) RequestDispatcher.forward()
- iv. The dispatcher result type which is used if no other result type is specified is _____
 A) error B) input
 C) default D) success
- v. _____ object is used to create SessionFactory object in hibernate.
 A) Configuration B) Session
 C) Sessionfactory D) Transaction
- vi. _____ creates a new instance of Query for the given SQL query string.
 A) request.createSQLQuery B) response.createSQLQuery
 C) Session.createSQLQuery D) Session.createQuery
- vii. Which of the following bean stores data of a particular user for a single session?
 A) Stateful B) Stateless
 C) Message-driven beans D) None of these
- viii. Which of the following bean represents persistent data storage?
 A) Session beans B) Entity beans
 C) Message-driven beans D) None of these

[14]

Q2. Answer the following questions (Any Seven):

- a. Define the following: 1) JSP Scriptlet tags 2) JSP declaration tags
- b. List any four advantages of Servlet.
- c. List all the four possible values of scope attribute on JSP page.
- d. Explain struts.xml configuration file used in Struts 2.
- e. Explain Struts 2 validation framework.
- f. Write the example of delete clause of HQL for Hibernate 3.
- g. Explain component tag of Hibernate 3.
- h. Draw the life cycle of message-driven beans.
- i. Explain the decorator pattern in J2EE design pattern.

(P.T.O.)

①

Page 1 of 2

- Q4. Answer the following questions:**
- Discuss different control tags available in Struts 2 framework. [6]
 - List different types of cookies. Explain cookies handling mechanism in servlets. [6]

OR

- Explain Struts 2 <result> tags. Write the code snippet for explaining different values return as "result" in action classes. [6]

- Q5. Answer the following questions:**

- List and discuss the components of JPA architecture. [6]
- Explain different components of Persistence Layer of Hibernate 3. [6]

OR

- What is session bean? Discuss different types of session beans in detail by taking a suitable example of your choice. [6]

- Q6. Answer the following questions:**

- Explain any two Hibernate 3 objects in detail. [6]
- create table ADDRESS (

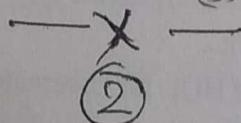
```
    ADD_id INT NOT NULL auto_increment,  
    HOUSE_NAME VARCHAR(20) default NULL,  
    STREET_NAME VARCHAR(20) default NULL,  
    CITY_NAME VARCHAR(20) default NULL,  
    STATE_NAME VARCHAR(20) default NULL,  
    COUNTRY_NAME VARCHAR(20) default NULL,  
    PRIMARY KEY (ADD_id)  
);
```

The above table is created in mysql database. Write the code snippet for the pojo object and hibernate mapping tag for the above table.

OR

- What is a j2EE design pattern? Discuss composite entity pattern in detail. [6]

(1) Polymorphism with ex.
(2) Generic im short with ex.
(3)



Nov - 2013

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Total number of printed pages: 2

SARDAR PATEL UNIVERSITY
MASTER OF COMPUTER APPLICATIONS
SEMESTER - III

PS03CMCA21 - Object Oriented Programming Using Java
Monday 25th November, 2019

Time: 2:00 pm to 5:00 pm

Max. Marks: 70

[8]

Q-1 Choose the most appropriate option for each question:

1. At which company was Java developed initially?
A) Sun Microsystems B) Oracle Corporation
C) JavaSoft D) None of these
2. Which of the following should be used to compare strings for equality?
A) == B) ===
C) .equals() D) Both A and C
3. Which of the following acts as a top level window in an AWT program?
A) Panel B) Frame
C) JPanel D) JFrame
4. Which of the following does not represent an event handler?
A) ActionListener B) KeyListener
C) KeyAdapter D) None of these
5. Which of the following is not a class in the standard Java class library?
A) Checkbox B) JCheckBox
C) RadioButton D) JRadioButton
6. Which of the following methods are used to load the JDBC drivers?
A) DriverManager.getConnection() B) DriverManager.getDriver()
C) Class.getDriver() D) Class.forName()
7. Which of the following is a generic data type?
A) ArrayList B) Array
C) Integer[] D) None of these
8. Which of the following is not a part of the Collections Framework?
A) Set B) Array
C) Map D) List

[14]

Q-2 Answer the following questions (Any Seven):

1. What is WORA? How is it made possible in Java?
2. What is the size of a char in Java? Write the character set and encoding used for the char type in Java.
3. List the four editions of Java.
4. Why is AWT called a heavy-weight toolkit? How does it affect the looks of AWT programs?
5. Write the applet paint method that displays the string Hello World!.
6. How does the BorderLayout work? List the regions where components may be placed in a BorderLayout.
7. Write a line of code that ensures that the Swing program terminates when the close button of the window is pressed. What is the difference between accelerators and mnemonics in Swing menus?
8. What is an enumeration? Write an example.
9. List any two classes used specifically for text file input and output.

(1)

C.P.T.O)

page 1 of 2

46

Q-3

- A. Write a short note on inheritance in Java. Give appropriate examples of class inheritance and [6]
interface implementation in Java.

- B. Write a note on encapsulation. Explain the differences between static and non-static members. [6]

OR

- B. Explain different types of exceptions. Explain exception handling in Java with code. [6]

Q-4

- A. Explain access modifiers like public, private, etc. in Java. [6]

- B. Write a Java program that keeps accepting numbers from the user until the user enters 0 as the [6]
number. The program should write the numbers to a text file `output.txt`, one number per
line. At the end, it should also write the total of the numbers to the file.

OR

- B. Write a Java applet illustrating its life cycle methods. [6]

Q-5

- A. Explain the following Swing components: JLabel, JTextField, JTextArea, JList, JButton (with [6]
handling of the click event)

- B. Write the syntax for the following in the context of JDBC: [6]
Defining a JDBC URL, Loading a JDBC driver, creating connection, creating statement,
executing different types of queries

OR

- B. Explain in brief the following classes in Java: [6]
`StringBuffer`, `StringBuilder`, `Scanner`, `Object`

Q-6

- A. Write a short note on primitive data types, reference types and wrapper types in Java. Also [6]
explain automatic boxing and unboxing with one example each.

- B. Write a short note on network programming in Java. [6]

OR

- B. Write a short note on multithreading. [6]

→ X →
②

Q-2 [Java]

Create a swing application that generates the Total Bill Amount for the Guest by using the details entered by the system operator and save the project as (Q1nnn) (where nnn is your 3 digit PID).

- Create a user interface named as swingUI given to you in common folder.
- On form load, MySQL database having the following database configuration should be created and connected automatically. Also add some records using the user interface.

Database Name : GUESTHOUSE

Table Name: GuestDetails

Table Specification:

Column	Type	Size	Description
GuestID	VARCHAR	10	Primary Key (E.g. GID1234567)
Name	VARCHAR	50	Guest Name
Dateln	DATE		Check In Date
NoOfAdults	INTEGER	2	
NoOfChildren	INTEGER	2	
DateOut	DATE		Check Out Date
Discount	DECIMAL	(4,2)	
BillAmt	DECIMAL	(7,2)	Total Bill Amount

- Also execute proper SQL query on click event of Insert, Update ,Delete and Save buttons. (Note: Primary key should not be updatable.)
- Apply proper commands on search button. (Take in GuestID for searching results by input message box)
- On click event of Generate Bill button, generate the bill amount for the currently displayed Guest record using following calculation. Also display final bill amount in appropriate format in a label or message box and insert into GuestDetails the BillAmt.

$$\text{TotalCharge} = [(500 * \text{NoOfAdults}) + (250 * \text{NoOfChildren})] * \text{No. of days}$$

$$\text{Final Invoice Bill Amount} = \text{TotalCharge} - ((\text{TotalCharge} * \text{Discount}) / 100)$$



Name	Varchar	30		Landline connection number
ConnectionNo	Varchar	15	Should be exactly of 15 digits	

- i. Display the GUI that initially shows all the information about the consumer. [2]
- ii. Provide all the navigations [first, last, previous, next] for database in the user interface. [4]
- iii. Allow user to insert a new record. [note: the connection number should be of exactly characters, digits only] [5]
- iv. Allow user to delete a record. [2]
- v. Allow user to update a record. [note: the Consumer number should not be updatable] [2]

4D

[C# .NET]

Create a Visual C # Windows application (Name : MCAPID, where pid indicate your full PID), to perform the following tasks:

TASK-1 : Tic-Tac-Toe is a pencil and paper, two player game where, the two players, in turn mark the spaces in a 3x3 grid, with their respective symbols, O and X. The player who succeeds in getting three of his in a horizontal, vertical or diagonal row wins. If none of them gets three in a row, the game ends in a draw. Every turn the aim of the player is to either complete his "three" or prevent the other player from completing his "three". Design appropriate interface for Tic-Tac-Toe game and provide the necessary functionality.

TASK-2 : Add a database (**exam.sdf**) to your application, which contains ~~ELECT~~ METER table. METER table contains meter's details like meter id, name of the owner, last meter reading, previous meter reading, consumed units and bill amount.

Design a data entry screen which captures meter id, name of the owner, previous meter reading and current meter reading. Assume that the current meter reading is greater than or equal to previous meter reading. Insert all values in the METER table when INSERT button is clicked. Calculate units consumed and bill amount using the following formula.

Consumed units = (current meter reading – previous meter reading)

Bill Amount = (consumed units * Rs. 2.30)

*** THE END ***



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Create a menu-driven Windows application, to perform the following tasks :

TASK-1 : Read a number (between 0 to 9999999) using textbox control. Separate each digit from the number (right to left). Convert each digit into its equivalent word form as shown below and then add it to a listbox control.

0	1	2	3	4	5	6	7	8	9
Zero	One	Two	Three	Four	Five	Six	Seven	Eight	Nine

For example, if the number is 1095 then listbox should display the following items when a ADD DATA button is clicked:

Five
Nine
Zero
One

TASK-2 : Add the database **(exam.mdf)** to your application. Create a table (**RESULT**) having columns like examno, studnm, m1, m2, m3, m4, m5, m6, totmark and percentage. Design a data entry screen which captures student number, name and marks in five subjects. Using **INSERT** button, insert all values in **RESULT** table. Please note that, your code should calculate total marks and percentage using the following formula before inserting record into the table:

Total Marks = Sum of marks obtained in all five subjects
 Percentage = (Total Marks)/6



50

300

Seat No.

Total no. of printed pages: 3

[37]

SARDAR PATEL UNIVERSITY
MASTER OF COMPUTER APPLICATIONS

SEMESTER - III

SEMESTER - III
PS03CMCA21 (OBJECT ORIENTED PROGRAMMING USING JAVA)

Monday October 18th, 2021

Time: 2:00 pm to 4:00 pm

Max. Marks: 70

[8]

Q-1 Choose the most appropriate option for each question:

(A)

- (A) 1. Which of these operators is used in Java to allocate memory for an object?
A. malloc B. calloc
C. new D. alloc

2. The class _____ is a component which displays a list of objects and allows the user to select one or more items.
A. JTable B. JList
C. JMenubar D. None of these

3. Which of the following interprets and executes the java byte code?
A. JRE B. JDK
C. JVM D. None of these

4. Which of these is used to perform all input and output operations in Java?
A. Variables B. Methods
C. Classes D. Streams

5. _____ provides a set of classes to implement graphical user interface components, such as windows, dialogue boxes, menus etc.
A. java.awt B. java.io
C. java.sql D. java.applet

6. Which of these methods is used to handle button click events?
A. actionPerformed() B. click()
C. button_click() D. buttonPressed()

7. Which of the following is a method having same name as that of its class?
A. finalize B. delete
C. class D. constructor

8. _____ class is used to read from a file.
A. FileInputStream B. FileInputStream
C. FileBufferedInput D. ReadFileStream

1

P.T.O.

[16]

Q-1 Answer the following questions:**(B)**

1. Define the following: 1) Unboxing 2) Wrapper class
2. Which built-in package contains all the Java's built-in exceptions?
3. Explain the abstract keyword.
4. Explain 2-dimensional array.
5. Write about the usage of final keyword in inheritance.
6. Which function is used to invoke immediate parent class constructor?
7. _____ exception is caused by math errors such as division by zero.
8. An _____ is a collection of abstract methods.
9. Define bytecode.
10. Which character is used in front of all Swing component classes?
11. Define Primitive types.
12. Which method is used to register an action listener?
13. The class _____ arranges components in a rectangular grid.
14. _____ layer acts as an interface between a Java application and a database.
15. Which Java class provides a variable-length array?
16. Which Java GUI toolkit is called a lightweight toolkit?

Q-2 Answer the following questions (Any Seven):

[14]

1. Justify the statement "Java is secure programming language".
2. Define JDK and JRE.
3. Differentiate between Java Applet and Java Application.
4. Differentiate between a class and an interface.
5. Differentiate between AWT and Swing.
6. Explain BorderLayout in Swing.
7. List the steps involved in event handling in a GUI program.
8. List classes from the java.util package.
9. List and explain any two methods of String class.

Q-3 Answer the following questions:**A. Explain FlowLayout and BorderLayout in detail.**

[4]

B. Draw and explain the steps in executing a Java program.

[4]

OR**Q-3 Answer the following questions:****A. Describe any five AWT components in brief.**

[5]

B. Write a short note on the skeleton of java applet.

[3]

52

Q-4 Answer the following questions:

- A. Explain public static void main(String args[]) in Java. [4]
- B. Explain in short the JMenubar and JMenuItem components of Swing with code snippet. [4]

OR

Q-4 Answer the following questions:

- A. Explain the working of BufferedInputStream class with a code snippet. [4]
- B. List and explain different methods of KeyListener interface. [4]

Q-5 Answer the following questions:

- A. Discuss Menu Hierarchy of Swing. [4]
- B. Explain ways to load and register a JDBC driver in a java program. [4]

OR

Q-5 Answer the following questions:

- A. What are different types of JDBC Drivers? [4]
- B. What is JDBC Connection? Explain steps to get a Database connection in a simple java program. [4]

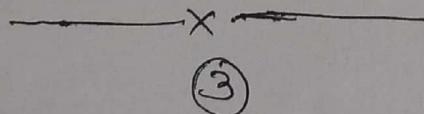
Q-6 Answer the following questions:

- A. Write a short on Runnable interface with example. [4]
- B. Explain exception handling in Java. [4]

OR

Q-6 Answer the following questions:

- A. Explain Scanner class of java.util package in detail. [4]
- B. Draw and explain Life cycle of an Applet Program in Java. [4]



SEAT No.

[40]



SARDAR PATEL UNIVERSITY
M.Sc.IT(Integrated) Examination, 7th Semester
Wednesday, 20th October, 2021.
Time: 02:00 P.M to 04:00 P.M
Subject Code: PS07CIIT03
Subject: Advance Java Programming

53

Total Marks: 70
[08]

Q.1(A) Multiple Choice Questions

- [1] JDBC stands for?
 A) Java database connectivity B) Java database concept C) Java database communications D) None of the above
- [2] An API can be created for _____
 A) applications B) libraries C) operating systems D) All mentioned above
- [3] The life cycle of a servlet is managed by _____
 [A] servlet context [B] servlet container [C] the supporting protocol [D] all of the above
- [4] What is javax.servlet.Servlet?
 [A] - interface [B] - abstract class [C] - concrete class [D] - None of the above.
- [5] JSP embeds in in
 A) Servlet, HTML B) HTML, Java C) HTML, Servlet D) Java, HTML
- [6] Which of the following is an implicit object?
 A) - pageContext B) - servletContext C) - httpContext D) - sessionContext
- [7] In which advantage of servlet, Servlets are managed by JVM so no need to worry about memory leak, garbage collection etc.?
 A) Better performance B) Portability C) Robust D) Secure
- [8] In the following statements identify the disadvantages of CGI?
 A) If number of clients increases, it takes more time for sending response
 B) For each request, it starts a process and Web server is limited to start processes
 C) It uses platform dependent language e.g. C, C++, perl
 D) All mentioned above

Q.1(B) One Word OR Fill in the blanks OR True/False

[16]

1. How many types of JDBC drivers available?
2. JDBC is a Java API that is used to connect and execute query to the database.
(True/False)
3. Which driver converts JDBC calls directly into the vendor-specific database protocol?
4. How many steps are used to connect any java application with the database in java using JDBC?
5. Which code can be used to clear any data that exists in the buffer as well as the status code and headers?
6. Javax.servlet package contains servlet classes.(True/False)
7. request.getCountry() code is used to get country/region code in servlets.(True/False)
8. response.addCookie(cookie) code sends a cookie in servlet.(True/False)
9. Cookie is not a implicit object.(True/False)
10. What JSTL stands for?

(1)

P.T.O.

54

11. Which method can be used to read binary data stream coming from the client?
12. Which depicts correct order of phases in JSP life cycle?
13. Servlet technology is used to create web application.(True/False)
14. Abbreviate the term MIME?
15. _____ is the format for EJB deployment descriptor files.
16. In which technology, we mix our business logic with the presentation logic.

Q.2 Short Questions(Attempt Any Seven)

[14]

1. What is Swing?
2. What is API?
3. List types of JDBC Drivers.
4. Draw the Web Based Architecture.
5. Explain init() method in brief. (servlet)
6. List few advantages of using JSP.
7. Explain JSP Expression.
8. List the Layers of Software.
9. List the Goals of well designed enterprise applications.

Q.3 Write a short note on JDBC Drivers.

[08]

OR

Q.3 Explain JTextField and its constructors with one example.

[08]

Q.4 Write a short note on the generic servlet class with example.

[08]

OR

Q.4 Write a short note on the HTTP Servlet Class with doGet() and doPost() method. [08]
(Give Example)

Q.5 Write a short note on JSP Architecture.

[08]

OR

Q.5 Write a short note on JSP Elements.

[08]

Q.6 Write a short note on J2EE with its advantages and disadvantages.

[08]

SARDAR PATEL P G DEPARTMENT OF COMPUTER SCIENCE AND TECHNOLOGY

SARDAR PATEL UNIVERSITY

MASTER OF COMPUTER APPLICATIONS (MCA)

III-SEMESTER

PS03CMCA06 (PRACTICAL)

23RD SEPTEMBER, 2015

55

Time : 3 Hours

Marks : 30

Q-1 [C#.NET]

[15]

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Zero

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Total Marks = Sum of marks obtained in all five subjects
Percentage = (Total Marks)/6

56

Time : 3½ Hrs

- Q-1 Write
Save
a. C
b. S
c. T

Q-2 [Java]

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- Create a user interface named as swingUI given to you in common folder.
- On form load, MySQL database having the following database configuration should be created and connected automatically. Also add some records using the user interface.

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Table Name: GuestDetails

Table Specification:

Column	Type	Size	Description
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Name	VARCHAR	50	Guest Name
DateIn	DATE		Check In Date
NoOfAdults	INTEGER	2	
NoOfChildren	INTEGER	2	
DateOut	DATE		Check Out Date
Discount	DECIMAL	(4,2)	
BillAmt	DECIMAL	(7,2)	Total Bill Amount

- Also execute proper SQL query on click event of Insert, Update ,Delete and Save buttons. (Note: Primary key should not be updatable.)
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- On click event of Generate Bill button, generate the bill amount for the currently displayed Guest record using following calculation. Also display final bill amount in appropriate format in a label or message box and insert into GuestDetails the BillAmt.

TotalCharge = [(500* NoOfAdults)+(250* NoOfChildren)]* No. of days

Final Invoice Bill Amount = TotalCharge - ((TotalCharge*Discount)/100)