MUTHAYAMMAL ENGINEERING COLLEGE

(An Autonomous Institution)

(Approved by AICTE, New Delhi, Accredited by NAAC & Affiliated to Anna University)
Rasipuram - 637 408, Namakkal Dist., Tamil Nadu

MUST KNOW CONCEPTS

MKC

MCA

2021-2022

Subject Code/Name   : 21CAB11 / Internet And Java Programming

Year/Sem/Sec   : I / II / -

S.No	Term	Notation (Symbol)	Concept/Definition/Meaning/Units/Equation /Expression	Units
UNIT I: INTERNET APPLICATIONS				
1	Internet	--	The Internet is a vast network that connects computers all over the world.	I
2	Email	--	Email is a system of sending written messages electronically from one computer to another. Email is an abbreviation of 'electronic mail'. contact us by email.	I
3	Spam	--	Spam is digital junk mail: unsolicited communications sent in bulk over the internet or through any electronic messaging system.	I
4	virus	--	A computer virus is a malicious piece of computer code designed to spread from device to device.	I
5	Types of system Virus	--	1.Boot Sector Virus,2. Web Scripting Virus,3. Browser Hijacker,4. Resident Virus,5. Direct Action Virus,6. Polymorphic Virus	I
6	Domain Name System	--	The domain name system (DNS) is a naming database in which internet domain names are located and translated into Internet Protocol (IP) addresses.	I
7	Internet Address	--	An Internet Protocol address (IP address) is a numerical label such as 192.0. 2.1 that is connected to a computer network that uses the Internet Protocol for communication.	I

8	E-Mail Viruses	--	An email virus is malicious software or a program that attaches itself to an email to infiltrate and infect your computer.	I
9	Internet Chat	--	Online chat may refer to any kind of communication over the Internet that offers a real-time transmission of text messages from sender to receiver.	I
10	Conference in an Internet	--	A web conference is a meeting in which people in different places can communicate with each other by logging onto a website.	I
11	Internet Messaging	--	Instant messaging (IM), form of text-based communication in which two persons participate in a single conversation over their computers or mobile devices within an Internet-based chart room.	I
12	Usenet	--	USENET is a system of special interest discussion groups, called newsgroups, to which readers can send, or "post," messages which are then distributed to other computers in the network.	I
13	Newsgroup	--	A newsgroup is a discussion about a particular subject consisting of notes written to a central Internet site and redistributed through USENET, a worldwide network of news discussion groups	I
14	Voice Conference	--	Voice conferencing, also known as teleconferencing, is where two or more people in different locations use technology or telephone lines to conduct a group conversation.	I
15	Video Conference	--	Video conferencing is a type of online meeting where two or more people engage in a live audio-visual call.	I
16	Internet Security	--	Internet security is a specific aspect of broader concepts such as cyber security and computer security, being focused on the specific threats and vulnerabilities of online access and use of the internet	I
17	Web Security	--	Web security refers to the protective measures and protocols that organizations adopt to protect the organization from, cyber criminals and threats that use the web channel.	I

18	Antivirus Software	--	Antivirus is a kind of software used to prevent, scan, detect and delete viruses from a computer.		I
19	Sending files in E-Mail	--	An email attachment is a computer file sent along with an email message. One or more files can be attached to any email message, and be sent along with it to the recipient.		I
20	Receive files in E-Mail	--	An email attachment is a computer file sent along with an email message. One or more files can be attached to any email message, and be sent along with it to the recipient.		I
21	Internet Virus	--	A computer virus is a type of malicious code or program written to alter the way a computer operates and is designed to spread from one computer to another.		I
22	Internet Applications	--	An Internet application is a client/server application that uses standard Internet protocols for connecting the client to the server.		I
23	FTP	--	The File Transfer Protocol (FTP) definition refers to a group of rules that govern how computers transfer files between systems over the internet.		I
24	Types of Domains in DNS	--	1.TLD - Top Level Domains, 2. ccTLD.country code Top Level Domains, 3. gTLD - generic Top Level Domain, 4. IDN ccTLD - internationalised country code top-level domains.		I
25	TelNet	--	Telnet is a client-server protocol, based on a reliable connection-oriented transport.		I

UNIT II: JAVA FUNDAMENTALS

26	Java	--	One of the most widely used programming languages, Java is used as the server-side language for most back-end development projects, including those involving big data		II

			and Android development. Java is also commonly used for desktop computing, other mobile computing, games, and numerical computing.	
27	Java Features	--	1. Simple and Familiar 2. Platform Independent 3. Portable 4. Architectural Neutral 5. Object-Oriented 6. Robust	II
28	Java Fundamentals	--	Classes, objects, methods, arrays, and lists. Object-oriented programming and design utilizing inheritance, polymorphism, and abstraction.	II
29	Platform Independent	--	platform-independent model (PIM) in software engineering is a model of a software system or business system that is independent of the specific technological platform used to implement it.	II
30	Interpreter	--	An interpreter is a person whose job is to translate what someone is saying into another language.	II
31	Multithread	--	Java, Multithreading refers to a process of executing two or more threads simultaneously for maximum utilization of the CPU.	II
32	Different Java platforms	--	Java Platform, Standard Edition (Java SE) Java Platform, Enterprise Edition (Java EE) Java Platform, Micro Edition (Java ME) Java FX.	II
33	JVM	--	Java Virtual Machine, or JVM, loads, verifies and executes Java bytecode.	II
34	Java datatypes	--	boolean data , byte, char, short, int, long, float, double	II
35	Expressions in Java	--	An expression is a construct which is made up of literals, variables, method calls and operators following the syntax of Java. Every expressions consists of at least one operator and an operand.	II
36	Java Statement	--	A statement specifies an action in a Java program. For example, a statement may tell the add of values of x and y and assign their sum to the variable z .	II

37	Java Blocks	--	A block in Java is a set of code enclosed within curly braces { } within any class, method, or constructor. It begins with an opening brace ({) and ends with an closing braces (}).		II
38	Java Comments	--	Multi-line comments start with /* and ends with */ . Any text between /* and */ will be ignored by Java.		II
39	Operators in Java	--	Arithmetic Unary ,Assignment , Relational ,Logical ,Ternary , Bitwise , Shift .		II
40	Java control statements	--	Decision Making statements. if statements. switch statement. Loop statements. do while loop. while loop. for loop. for-each loop.		II
41	Types of control How statements	--	Conditional/Selection statements. Iteration/Loop statements. Jump statements.		II
42	Classes in Java	--	A class is a user defined blueprint or prototype from which objects are created.		II
43	package	--	To create a package, you choose a name for the package (naming conventions are discussed in the next section)		II
44	Types of packages	--	A package is a collection of similar types of Java entities such as classes, interfaces, subclasses, exceptions, errors, and enums. A package can also contain sub-packages.		II
45	Static Keyword	--	n the Java programming language, the keyword static indicates that the particular member belongs to a type itself, rather than to an instance of that type.		II
46	This Keyword	--	The this keyword refers to the current object in a method or constructor.		II
47	Interface	--	The interface in Java is a mechanism to achieve abstraction.		II
48	Exception Handling	--	The Exception Handling in Java is one of the powerful mechanism to handle the runtime errors so that the normal flow of the application can be maintained.		II

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49	Types of exception Handling	--	throw keyword. It is clearly displayed in the output that the program throws exceptions during the compilation process.	II
50	Keywords in Exception Handling	--	Customized Exception Handling : Java exception handling is managed via five keywords: try, catch, throw, throws, and finally.	II

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UNIT III : PACKAGES

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51	Built-in-package	--	A java package is a group of similar types of classes, interfaces and sub-packages. There are many built-in packages such as **java, lang, awt, javax, swing, net, io, util, sql** etc	III
52	User-defined package	--	User-defined packages are **those which are developed by users in order to group related classes, interfaces and sub packages**.	III
53	Usage of package	--	Package in Java is a mechanism to encapsulate a group of classes, sub packages and interfaces. Packages are used for: **Preventing naming conflicts**. ... Making searching/locating and usage of classes, interfaces, enumerations and annotations easier.	III
54	AWT	--	The java. awt package is the main package of the AWT, or **Abstract Windowing Toolkit**.	III
55	AWT Controls	--	Introduction to Java AWT Controls. ... awt package that supports various AWT controls like **Label, Button, CheckBox, CheckBox Group, List**, Text Field, Text Area, Choice, Canvas, Image, Scrollbar, Dialog, File Dialog, etc .	III
56	Methods overloading	--	Method Overloading is a **feature that allows a class to have more than one method having the same name**, if their argument lists are different..	III
57	Method overriding	--	Method overriding, in object-oriented programming, is a **language feature that allows a subclass or child class to provide a specific implementation of a method** that is already provided by one of its superclasses or parent classes.	III
58	Layout	--	Layout means **the arrangement of components within the container**. In other way we can say that placing the components at a particular position within the container.	III

59	Types of Layout	--	There are four basic types of layouts: **process, product, hybrid, and fixed position**.	III
60	Containers in Java	--	Containers are **the interface between a component and the low-level, platform-specific functionality that supports the component**.	III
61	Event Package	--	An event package is **a suggestion for how a potential customer might like to experience the event, whilst incorporating and promoting event partners**.	III
62	Classes in Event package	--	Events. The classes with names ending in "Event" represent specific types of events, generated by the AWT or by one of the AWT or Swing components	III
63	Event Model	--	The Delegation Event model is defined to handle events in GUI programming languages. The GUI stands for Graphical User Interface, where a user graphically/visually interacts with the system. This is known as event handling	III
64	Garbage collection	--	In computer science, garbage collection is **a type of memory management**.	III
65	Advantages of Garbage collection	--	The explicit freeing of objects is that **garbage collection gives programmers less control over the scheduling of CPU time devoted to reclaiming memory**. - It is impossible to predict when a garbage collector will be invoked and how long it will take to run.	III
66	Gc() Method	--	gc() method **runs the garbage collector**. Calling this suggests that the Java Virtual Machine expend effort toward recycling unused objects in order to make the memory they currently occupy available for quick reuse.	III
67	Garbage collector in java	--	A Definition of Java Garbage Collection. Java garbage collection is the process by which Java programs perform automatic memory management.	III
68	Thread	--	Thread class provide constructors and methods to create and perform operations on a thread. Thread class extends Object class and implements Runnable interface.	III
69	Multithread	--	Multithreading in Java is a process of executing multiple threads simultaneously. A thread is a lightweight sub-process, the smallest unit of processing.	III

			Example: While **typing a java program in editor we can able to listen to audio songs by an mp3 player in our system at the same time we can download a file from the net**. All these jobs are executing together and independent of each other hence, this is Process-based multi-tasking.	III
70	Multitasking	--		
71	Methods in thread	--	start() – Starts the thread. getState() – It returns the state of the thread. getName() – It returns the name of the thread.	III
72	Use of multithread	--	The main purpose of multithreading is **to provide simultaneous execution of two or more parts of a program to maximum utilize the CPU time**. A multithreaded program contains two or more parts that can run concurrently.	III
73	Types of thread priority	--	public static int MIN_PRIORITY. public static int NORM_PRIORITY. public static int MAX_PRIORITY.	III
74	Lifecycle in thread	--	A thread goes through various stages in its lifecycle. For example, a **thread is born, started, runs, and then dies**	III
75	Runnable () method in thread	--	A thread goes through various stages in its lifecycle. For example, a **thread is born, started, runs, and then dies**	III

UNIT IV : ADVANCED JAVA PROGRAMMING

76	Util package	--	It contains the collections framework, legacy collection classes, event model, date and time facilities, internationalization, and miscellaneous utility classes (a string tokenizer, a random-number generator, and a bit array).	IV
77	Methods in Util package	--	util Package. It contains the collections framework, legacy collection classes, event model, date and time facilities, internationalization, and miscellaneous utility classes (a string tokenizer, a random-number generator, and a bit array).	IV
78	I/O package	--	The Java I/O package, a.k.a. java.io, provides a set of input streams and a set of output streams used to read and write data to files or other input and output sources.	IV
79	Use of I/O package	--	The Java I/O package, a.k.a. java.io, provides a set of input streams and a set of output streams used to read and write data to files or other input and output sources.	IV

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80	Classes of I/O package	--	BufferedInputStream, Buffered Output Stream.Buffered Reader, BufferedWriter.Byte ArrayInputStream, ByteArray Output Stream.CharArray Reader.	IV
81	Java.util.Arrays	--	The Arrays class in java. util package is a part of the Java Collection Framework. This class provides static methods to dynamically create and access Java arrays.	IV
82	Java.util.Date	--	The java. util. Date class represents date and time in java. It provides constructors and methods to deal with date and time in java.	IV
83	Inner classes in java	--	Java inner class or nested class is a class that is declared inside the class or interface. We use inner classes to logically group classes and interfaces in one place to be more readable and maintainable.	IV
84	JDBC in java	--	Java™ database connectivity (JDBC) is the JavaSoft specification of a standard application programming interface (API) that allows Java programs to access database management systems.	IV
85	Four types of JDBC driver	--	JDBC-ODBC bridge driver. Native-API driver. Network Protocol driver. Thin driver.	IV
86	ODBC	--	ODBC stands for Open Database Connectivity which literally means that it is compatible with all types of languages such as C, C++, Java, etc. JDBC Stands for Java database connectivity	IV
87	Classes in JDBE APT	--	Java™ database connectivity (JDBC) is the JavaSoft specification of a standard application programming interface (API) that allows Java programs to access database management systems.	IV
88	APT	--	The apt tool is a command-line utility for annotation processing. It includes a set of reflective APIs and supporting infrastructure to process program annotations	IV
89	Advantages of JDBC	--	It is capable of reading any database. It automatically creates the XML format of data from the database.	IV
91	Drives manager	--	DriverManager is a static class in the Java™ 2 Plaform, Standard Edition (J2SE) and Java SE Development Kit (JDK).	IV

92	Result Set	--	*ResultSet* interface. The object of *ResultSet* maintains a cursor pointing to a row of a table. Initially, cursor points to before the first row.	IV
93	Servlet	--	*Servlet* is a technology which is used to create a web application. · *Servlet* is an API that provides many interfaces and classes including documentation.	IV
94	CGI	--	The Common Gateway Interface (CGI) is a standard for writing programs that can interact through a Web server with a client running a Web browser.	IV
95	Advantages of Servlet	--	Better performance: because it creates a thread for each request, not process. Portability: because it uses Java language. Robust: JVM manages Servlets, so we don't need to worry about the memory leak, garbage collection, etc.	IV
96	RMI	--	RMI stands for Remote Method Invocation. It is a mechanism that allows an object residing in one system (JVM) to access/invoke an object running on another JVM.	IV
97	Stubleskeleton	--	The stub hides the serialization of parameters and the. network-level communication in order to present a simple invocation mechanism to the caller. The skeleton is responsible for dispatching the call to the actual remote object implementation.	IV
98	RMI registry	--	RMI registry is a namespace on which all server objects are placed. Each time the server creates an object, it registers this object with the RMIregistry (using bind() or reBind() methods).	IV
99	Java swing	--	*Java Swing* tutorial is a part of Java Foundation Classes (JFC) that is used to create window-based applications.	IV
100	Swing Features	--	Platform Independent: It is platform-independent; the swing components that are used to build the program are not platform-specific.	IV

UNIT V : JAVA BEANS AND NETWORKING

| 101 | Java Bean | -- | According to *Java* white paper, it is a reusable software component. | V |

102	Use of Java Bean	--	According to Java white paper, it is a reusable software component. A bean encapsulates many objects into one object so that we can access this object from multiple places.	V
103	Java Bean Property	--	A JavaBean property is a named feature that can be accessed by the user of the object. The feature can be of any Java data type, containing the classes that you define.	V
104	Advantages of Java Bean	--	Advantages. The properties, events, and methods of a bean can be exposed to another application. A bean may register to receive events from other objects and can generate events that are sent to those other objects.	V
105	Application Building Tools	--	Leiningen,Packer,Gulp,NAnt,Grunt,Ant,Maven Docker	V
106	BDK	--	The BDK is available free on the web. In addition to the BDK, you will need the Java Development Kit (JDK).	V
107	Components in BDK	--	The BDK is available free on the web. In addition to the BDK, you will need the Java Development Kit (JDK).).	V
108	Jar Files	--	A JAR (Java ARchive) is a package file format typically used to aggregate many Java class files and associated metadata and resources (text, images, etc.	V
109	Introspection in java	--	Introspection (taken from archive of sun java beans tutorial) Introspection is the automatic process of analyzing a bean's design patterns to reveal the bean's properties, events, and methods.	V
110	Persistence in java	--	Data Persistence is a means for an application to persist and retrieve information from a non-volatile storage system. JPA standardizes the important task of object-relational mapping by using annotations or XML to map objects into one or more tables of a database.	V
111	Java Bean API	--	The JavaBeans API makes it possible to write component software in the Java programming language.	V
112	Bean Builder	--	Bean Builder is a pure Java application, built over market proven and open standards such as XML, Java Beans, and JFC/Swing.	V
113	Networking in java	--	Java Networking is a notion of combining two or more computing devices together to share resources. All the Java program communications over the network are done at the application layer.	V

114	Inet Address	--	Java InetAddress class represents an IP address. The java. net. InetAddress class provides methods to get the IP of any host name for example www.javatpoint.com, www.google.com, www.facebook.com, etc.	V
115	TCP/IP Client soclsets	--	There are two kinds of *TCP sockets in Java*. One is for servers, and the other is for *clients*.	V
116	TCP/IP soclsets	--	Java provides two classes for TCP: Socket and ServerSocket. An instance of Socket represents one end of a TCP connection. A TCP connection is an abstract two-way channel whose ends are each identified by an IP address and port number.	V
117	Bean Info interface	--	BeanInfo is an interface implemented by a class that provides explicit information about a Bean. It is used to describe one or more feature sets of a Bean, including its properties, methods, and events.	V
118	EJB	--	EJB (Enterprise Java Bean) is used to develop scalable, robust and secured enterprise applications in java. Unlike RMI, middleware services such as security, transaction management etc. are provided by EJB Container to all EJB applications. The current version of EJB is EJB 3.2.	V
119	Types of EJB in Java	--	There are three types of EJBs: Session Bean, Entity Bean, and Message-Driven Bean.	V
120	Java Beans Components	--	- A no-argument constructor. - Properties defined with accessors and mutators (getter and setter method). - Class must not define any public instance variables.	V
121	UDP	--	UDP is a communication protocol that transmits independent packets over the network with no guarantee of arrival and no guarantee of the order of delivery.	V
122	Int get port()	--	The get Port() method of Java Socket class returns the remote port number to which the socket is connected. This method will return the port number even after the socket is closed.	V
123	Int get local port()	--	The get Local Port() method of Java Socket class returns the local port number to which the specified socket is bound. If the socket was being closed, this method will return the connected port number after the socket is closed.	V

124	Two types of socket in TCP/IP	--	The TCP/IP protocol supports two types of port- TCP Port and UDP Port.	V
125	Datagram socket	--	Datagram socket is a type of network socket which provides connection-less point for sending and receiving packets.	V
GATE/Placement Related Questions				
126	Utility computing	--	Utility computing is a plug-in managed by an organization which decides what type of services has to be deployed from the cloud	
127	EUCALYPTUS	--	Elastic Utility Computing Architecture For Linking Your Program To Useful Systems	
128	Different datacenters	--	• Containerized data center • Low density data center	
129	Communication As a Service	--	CaaS offers the enterprise user features such as desktop call control, unified messaging and desktop faxing.	
130	Window azure services	--	• Compute • Storage • Management	
131	Amazon Web Service	--	It is a collection of remote computing services also known as a cloud computing platform.	
132	Simple Storage Device	--	It is a storage device and the most widely used AWS service	
133	Elastic Compute Cloud	--	It provides on-demand computing resources for hosting applications. It is handy in case of unpredictable workloads	
134	Cloud Watch	--	To monitor AWS resources, It allows administrators to view and collect key Also, one can set a notification alarm in case of trouble	
135	Amazon Machine Image	--	It's a template that provides the information required to launch an instance, which is a copy of the AMI running as a virtual server in the cloud.	
136	Key-pairs in AWS	--	Key-pairs are secure login information for your virtual machines	
137	Snowball	--	Snowball is a data transport option. It used source appliances to a large amount of data into and out of AWS.	
138	Red shift	--	Red shift is a big data warehouse product. It is fast and powerful, fully managed data warehouse service in the cloud.	
139	Subnet	--	A large section of IP Address divided into chunks is known as subnets	

140	Auto-scaling	--	Auto-scaling is a function that allows you to provision and launch new instances whenever there is a demand.	
141	Web Role	--	A web role is basically used to deploy a website, using languages supported by the IIS platform like, PHP, .NET etc. It is configured and customized to run web applications.	
142	Worker Role	--	A worker role is more like an help to the Web role, it used to execute background processes unlike the Web Role which is used to deploy the website	
143	VM Role	--	The VM role is used by a user to schedule tasks and other windows services. This role can be used to customize the machines on which the web and worker role is running.	
144	VNet	--	VNet is a representation of your own network in the cloud.	
145	Enterprise warehousing	--	Enterprise warehousing is the phenomenon where the data is developed by the organization having access at a single point throughout the globe.	
146	Microsoft SharePoint Server	--	Microsoft SharePoint Server (MOSS) that consist of a complete version of the portal platform. It allows a user to manage, share and even create the document	
147	PROC MEANS	--	It refers to the subgroup of statist created in the persistence of the BY statement	
148	PROC SUMMARY	--	It is the support statistic giving all varieties of information running simultaneously.	
149	Components of the Windows Azure platform	--	- Compute - Storage - App Fabric	
150	Guest OS in Microsoft Azure	--	Guest OS is an operating system which runs on the virtual machine which allows you to hosts an instance of a role	

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Faculty Prepared   **Signature**

HoD