Seat No. _____   Enrollment No. _____

THE CHARUTAR VIDYA MANDAL UNIVERSITY
M.Sc. (Information Technology)– SEMESTER III
WINTER 2021 EXAMINATION

Course Title: ADVANCED COMPUTER NETWORKS

Course Code: 101410301

Total Printed Pages : 02

Date: 16/11/2021   **Time: 10.00 am to 12.00 pm**   **Maximum Marks: 60**

Instructions:
- Attempt all questions.
- Numbers to the right indicate full marks for each question.
- Make suitable assumptions wherever necessary.

Q. 1   **Answer the following multiple choice questions.**   **(12)**

(1) ATM _____ is a standard link between two network equipment, such as ATM Switches.

    A. UNI   B. NNI
    C. Cell   D. None of these.

(2) The _____ layer breaks the larger packets into small packets.

    A. Application   B. Transport
    C. Network   D. All of these.

(3) _____ Switching is a data transmission technique, which uses data packets for transmission of information.

    A. Packet   B. Circuit
    C. Message   D. None of these.

(4) _____ protocol defines for world wide web.

    A. FTP   B. HTTP
    C. SMTP   D. TELNET

(5) Routing between two autonomous systems is known as _____.

    A. Inter-domain routing. B. Intra-domain routing.
    C. Unicast routing.   D. None of these above.

(6) An ARP request is a broadcast, and an ARP response is a Unicast. **[True/ False]**

(7) _____ Protocol is helps a computer to find its IP address when it knows its physical address.

    A. IP   B. ARP
    C. RARP   D. None of these above.

(8) _____ Protocol denotes a connection-oriented, reliable protocol that handles most of the transport layer services.

    A. TCP   B. UDP
    C. SCTP   D. None of these above.

(9) SAN is commonly used in _____ servers.
- A. File server
- B. Email Server
- C. Database server
- D. All of these above.

(10) The availability of a system can be calculated using _____ equation.
- A. MTBF/ (MTBF+MTTR)
- B. e^{-t}/MTBF
- C. e^{-t}(1/MTBF + 1/MTBF)
- D. None of these above.

(11) Network organization uses _____ naming method(s).
- A. URI
- B. URN
- C. URL
- D. All of these above.

(12) _____is a technology that allowing you to make voice calls over a broadband Internet connection.
- A. ATM
- B. X.25
- C. VOIP
- D. None of these above.

Q.2	Attempt **any eight** of the following.	**(16)**

(1) Explain Basic structure of ATM cell.
(2) Explain the concept of TP, VP and VC
(3) Define Unicasting, Multicasting and Broadcasting
(4) Explain how ARP works?
(5) List and Explain any one Application Layer Protocol.
(6) List and Explain any one Multicast Routing protocol.
(7) List and Explain Traffic Characteristics.
(8) Explain Network Addressing and Naming Schemes.
(9) Explain Switching for network connectivity.
(10) Explain Availability, Reliability and Maintainability of network.

Q. 3	Write a note on ATM Adaptation Layer.	**(08)**
	OR	
Q.3	Write a note on B-ISDN reference model.	**(08)**
Q. 4	Write a note on TCP/IP Protocol suite.	**(08)**
	OR	
Q. 4	Explain Routing in the Internet.	**(08)**
Q. 5	Write a note on ATMARP Packet Format.	**(08)**
	OR	
Q. 5	Explain SAN Architecture with benefits of SAN.	**(08)**
Q. 6	Explain Network Management Model using SNMP protocol.	**(08)**
	OR	
Q. 6	Write a note on Multimedia over internet.	**(08)**

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THE CHARUTAR VIDYA MANDAL UNIVERSITY
M.Sc. (Information Technology)– SEMESTER 3
WINTER 2021 EXAMINATION

Course Title: Advanced Java

Course Code: 101410302

Total Printed Pages : 02

Date: 17/11/2021   **Time: 10.00 am to 12.00 pm**   **Maximum Marks: 60**

Instructions:
- Attempt all questions.
- Numbers to the right indicate full marks for each question.
- Make suitable assumptions wherever necessary.

Q. 1   Answer the following multiple choice questions.   **(12)**

(1)   In java a thread can be created by ……………….
(A) Extending the Thread class   (C) Both A and B
(B) Implementing Runnable Interface   (D) None of them

(2)   Which of the following driver is the fastest one?
(A) JDBC-ODBC Bridge Driver   (C) Native API Partly Java Driver
(B) JDBC Net Pure Java Driver   (D) Network Protocol Driver

(3)   Which method must be implemented by a Java thread?
(A) run()   (C) start()
(B) execute()   (D) None

(4)   The doGet() method in the example extracts values of the parameter's type and number by using _____
(A) request.getParameter()   (C) request.setParameter()
(B) response.getAttribute()   (D) response.getParameter()

(5)   Which of the following is not a valid attribute of a page directives?
(A) Language   (C) export
(B) extend   (D) import

(6)   config is instance of which class?
(A) javax.servlet.ServletContext   (C) javax.servlet.Context
(B) javax.servlet.ServletConfig   (D) javax.servlet.Application

(7)   Which attribute is used to specify class name of the bean?
(A) name   (C) class
(B) id   (D) constructor-args

(8)   Which tag in XML is used to declare @Before advice's method?
(A) aop:before   (C) aop:afterthrow
(B) aop:after   (D) None of the mentioned

(9) What is true about cross-cutting concerns?
(A) The functions that span multiple points of an application are called cross cutting concerns
(B) Cross-cutting concerns are conceptually separate from the application's business logic
(C) Logging is one of the examples of cross cutting concerns
(D) All of the above

(10) Which services are provided to EJB components by the EJB container?
(A) Transaction support   (C) Naming support
(B) Persistence support   (D) All mentioned above

(11) Abbreviate the term JMS?
(A) Java Message Service   (C) Java Message Session
(B) Java Monitor Service   (D) Java Monitor Session

(12) Which of the following annotation is used to specify that a given EJB class is a message driven bean?
(A) @javax.ejb.Stateless   (C) @javax.ejb.MessageDrivenBean
(B) @javax.ejb.Stateful   (D) @javax.ejb.EJB

Q.2   Attempt **any eight** of the following.   **(16)**
(1) How can we create the thread? Explain using examples.
(2) Explain sleep method in thread using with example.
(3) Enlist JSP Scripting elements and explain any one using with example.
(4) Enlist JSP implicit objects and explain any one using with example.
(5) Compare Generic Servlet and Http Servlet.
(6) Write a short note on about Restful Web Service.
(7) Explain types of dependency Injection using with example.
(8) What is Spring IoC container?
(9) Write a short note on EJB?
(10) Write down the benefits of Enterprise Bean.

Q. 3   What is JDBC? Explain JDBC driver using with proper diagram.   **(08)**
OR
Q. 3   Briefly explain J2EE Architecture with proper diagram.   **(08)**

Q. 4   Write a Login servlet program. Take input username and password from html file login.html and authenticate the user. Write the web.xml.   **(08)**
OR
Q. 4   Briefly Explain JSP life cycle.   **(08)**

Q. 5   Explain Spring Framework Architecture using with proper example.   **(08)**
OR
Q. 5   Briefly explain Spring MVC framework.   **(08)**

Q. 6   Briefly explain Enterprise Bean Architecture.   **(08)**
OR
Q. 6   What are Beans? Explain types of Enterprise Java Beans.   **(08)**

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Seat No. _____   Enrollment No. _____

THE CHARUTAR VIDYA MANDAL UNIVERSITY
M.Sc. (Information Technology)– SEMESTER III
WINTER 2021 EXAMINATION

Course Title: MOBILE COMPUTING

Course Code: 101410303

Total Printed Pages : 02

Date: 18/11/2021   Time: 10.00 am to 12.00 pm   Maximum Marks: 60

Instructions:
- Attempt all questions.
- Numbers to the right indicate full marks for each question.
- Make suitable assumptions wherever necessary.

Q. 1   **Answer the following multiple choice questions.**   (12)

(1)   Android is _____
  - A. An operating system
  - B. A web browser
  - C. A web server
  - D. None of the above.

(2)   Which of the following virtual machine is used by the Android operating system?
  - A. Java Virtual Machine
  - B. Dalvik Virtual Machine
  - C. Simple Virtual Machine
  - D. None of the above.

(3)   How to get a response from an activity in Android?
  - A. startActivityToResult()
  - B. Bundle()
  - C. startActiivtyForResult()
  - D. None of the above.

(4)   APK stands for _____
  - A. Android Phone Kit
  - B. Android Page Kit
  - C. Android Package Kit
  - D. None of the above.

(5)   In which directory XML layout files are stored?
  - A. /assets
  - B. /src
  - C. /res/values
  - D. /res/layout

(6)   Which is a latest version of android?
  - A. Android 9
  - B. Android 10
  - C. Android 11
  - D. Android 12

(7)   Which of the following information is not included in the Manifest file?
  - A. The activities contained in the application.
  - B. The permissions required by the application.
  - C. The application's minimum SDK version required.
  - D. The handset model compatible with your application.

(8)   Which manifest file permission you should add to allow your application to read the device's address book?
  - A. READ_ADDRESS_DATA
  - B. READ_PHONE_STATE
  - C. READ_CONTACTS
  - D. READ_PHONE_CONTACTS

(9) Which of the following lines of code starts activity Activity2 from a current activity Activity1?

      A. Intent intent = new Intent(this, new Activity2())
         a. startActivity(intent);
      B. Intent intent = new Intent(new Activity2())
         a. startActivity(intent);
      C. Intent intent = new Intent(Activity1.class, Activity2.class)
         a. startActivity(intent);
      D. Intent intent = new Intent(this, new Activity2.class)
         a. startActivity(intent);

R file is a (an) _____generated file.

(10)
    A. Automatically   B. Manually
    C. Emulated   D. None of the above.

(11) What built-in database is Android shipped with?
    A. SQLite   B. Apache
    C. MySQL   D. Oracle

(12) Which XML element of the Android manifest indicates security access your application will need to be allowed to function properly?
    A. uses- instrumentation   B. uses-sdk
    C. uses-permission   D. uses-application

Q.2 Attempt **any eight** of the following.   **(16)**
(1) What is Android? Who is the founder of Android?
(2) What is the latest version of Android? List all the versions of Android.
(3) List and Explain Components of Android application.
(4) Draw graphical representation of Activity Life Cycle.
(5) What is Intent? Explain types of Intent.
(6) Write a short note on Android Manifest File.
(7) Write a short note on Toast with suitable example.
(8) Write a short note on AutoCompleteTextView with suitable example.
(9) Define Content Provider. List fundamental operations of it.
(10) Write a short note on android.location package.

Q. 3 Draw and Explain Android Architecture.   **(08)**
                                        OR
Q.3 Write a note on Android View Group with suitable example.   **(08)**

Q. 4 Write a note on Android menu with suitable example.   **(08)**

                                        OR
Q. 4 Explain EditText and TextView with commonly used attributes.   **(08)**

Q. 5 Explain six abstract methods and their description of content provider.   **(08)**
                                        OR
Q. 5 Write a program to insert Employee details (eno, ename, salary) in the database using SQLiteOpenHelper class.   **(08)**

Q. 6 Explain MediaPlayer Class to play audio, video files.   **(08)**
                                        OR
Q. 6 Explain SMSManager Class with important methods.   **(08)**

Seat No. _____   Enrollment No. _____

THE CHARUTAR VIDYA MANDAL UNIVERSITY
M.Sc. (Information Technology)– SEMESTER III
WINTER 2021 EXAMINATION

Course Title: Information Security

Course Code: 101410307

Total Printed Pages : 02

Date: 19/11/2021   Time: 10.00 am to 12.00 pm   Maximum Marks: 60

Instructions:
- Attempt all questions.
- Numbers to the right indicate full marks for each question.
- Make suitable assumptions wherever necessary.

Q. 1   Answer the following multiple choice questions.   **(12)**

(1)   The address value can consist of a hostname that is found in_____.
  (A) /etc/hosts   (C) /etc/protocols
  (B) /etc/networks   (D) /etc/ethers

(2)   Select the range of Class C address.
  (A) 1 to 127   (C) 128 to 191
  (B) 192 to 233   (D) 233 to 253

(3)   A proxy firewall filters at _____.
  (A) Application Layer   (C) Data Link Layer
  (B) Network Layer   (D)Physical Layer

(4)   Which of the following is / are the types of firewall?
  (A) Packet Filtering Firewall   (C) Screen Host Firewall
  (B) Dual Homed Gateway Firewall   (D) Dual Host Firewall

(5)   ICMP stands for _____
  (A) Internet Configuration Management Protocol
  (B) Internet Control Message Protocol
  (C) Intranet Control Message Protocol
  (D) None of these

(6)   Each device connected to the internet must be assigned a unique _____
  (A) Memory Address   (C) IP Address
  (B) Default Address   (D) None of these

(7)   PGP Stands for _____.
  (A)Pretty Good Privacy   (C)Public Good Private
  (B)Private Good Privacy   (D)Pretty Good Private

(8)   _____ is to identify the origin of a message and provide some assurance that it is authentic.
  (A)Confidentiality   (C)Authentication
  (B)Integrity   (D)Non-Repudiation

(9) _____ is a stream cipher.

(A)RC4   (C)RC5

(B)RC6   (D)None of these

(10) A _____substitution cipher relies on a fixed replacement structure.

(A)Monoalphabetic   (C)Polyalphabetic

(B)Ceaser Cipher   (D)None of these

(11) An Intranet can also be used for working in groups and teleconferences.

(A)Internet   (C)Intranet

(B)Extranet   (D)Hibernate

(12) _____ is/are a type of secure logon over internet.

(A)Local Logon   (C)Domain Logon

(B)Trusted Domain Logon   (D)All of these.

Q.2   Attempt **any eight** of the following.   **(16)**

(1) Define Hostnames.

(2) Explain in brief the functionality of the ping and ifconfig commands.

(3) Write a short note on Subnetting and Supernetting.

(4) Difference between IP Spoofing and IP Sniffing.

(5) What is firewall?

(6) Explain Monoalphabetic Substitution Cipher.

(7) Write a short note on IIS web server.

(8) Explain CAESAR cipher technique with suitable example.

(9) List and explain any two program threats.

(10) How do intranets, the internet and extranets differ?

Q. 3   Explain TCP/ IP model using with proper diagram   **(08)**

OR

Q.3   What is Addressing Method? Explain address classes in details.   **(08)**

Q. 4   Explain different types of firewall in details.   **(08)**

OR

Q. 4   Explain SATAN in brief.   **(08)**

Q. 5   List and explain any two Transposition techniques of Encryption.   **(08)**

OR

Q. 5   Explain Digital Identities, Certificate and Signature.   **(08)**

Q. 6   Explain different way of securing OS.   **(08)**

OR

Q. 6   Draw and Explain Windows NT Architecture.   **(08)**

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