

Date of Examination:	29-04-2022	Time:	2 Hrs
Name of the Post:	Junior Technician (CSE)		

Name of the Candidate:										
Application No:										

\_\_\_\_\_  
Candidate's Signature

\_\_\_\_\_  
Invigilator's Signature

**Instructions to the Candidate:**

1. Use of Calculators, Cell Phones and Other Electronic Devices are not permitted inside the examination hall.
2. Candidate should fill the details on both question paper booklet and OMR sheet carefully without any corrections.
3. Candidate should carefully read the instructions given on the question paper booklet and OMR sheet
4. Candidate should mark correct answer only on OMR sheet.
5. **Question paper consists of 75 questions in total. The questions are divided into Part A and Part B. Part A consists of 50 questions carrying one mark each. Part B consists of 25 questions carrying two marks each.**
6. **Wrong answer per each question in Part A carries negative of 0.25 marks. Wrong answer per each question in Part B carries negative of 0.5 mark.**
7. Clarifications on Questions are not permitted.
8. Rough works can be done in the blank space provided at the end of the question paper booklet.
9. No Candidate is allowed to leave the examination hall till the examination is completed.
10. **Candidate should return both question paper booklet and the OMR sheet after completion of examination to the Invigilator**

**PART A: (50 x 1 = 50 Marks)**

**Note: Wrong answer per each question in Part A carries negative of 0.25 marks.**

1.	Which of the following is a type of malware intentionally inserted into a software system that will set off a malicious function when specified conditions are met? A) Worm            B) Trojan            C) Spyware            D) Logic bomb
2.	In computer terminology, which of the following describe device drivers? A) Hardware that allows interaction between the peripheral device and the operating system. B) Software that allows the user to control the operating system. C) Software that allows interaction between the peripheral device and the operating system. D) Software that allows the user to control the operating system.
3.	A new laptop has been produced that weighs less, is smaller and uses less power than previous laptop models. Which of the following technologies has been used to accomplish this? A) Universal serial bus mouse B) Faster random-access memory C) Blu ray drive D) D. Solid-state hard drive
4.	Given the following email fields, which of the email addresses will "sachin" be able to see when he receives the message? To <u>ram@test.com</u> Cc <u>laxman@test.com</u> ; <u>sita@test.com</u> Bcc <u>sachin@test.com</u> ; <u>rama@test.com</u> A) <u>ram@test.com</u> B) <u>ram@test.com</u> ; <u>laxman@test.com</u> ; <u>sita@test.com</u> C) <u>ram@test.com</u> ; <u>rama@test.com</u> D) D. <u>ram@test.com</u> ; <u>rama@test.com</u> ; <u>laxman@test.com</u> ; <u>sita@test.com</u>
5.	Which of the following domains is used for profit businesses? A) .com            B) .edu            C) .org            D) .net
6.	POP3 and IMAP are email accounts in which A) One automatically gets one's mail every day B) One has to be connected to the server to read or write one's mail C) One only has to be connected to the server to send and receive email D) One does not need any telephone lines
7.	What type of software testing is generally used in software maintenance? A) Regression testing B) System testing C) Integration testing D) Unit testing

8.	Which of the following is true in the context of open-source software? A) The GPL allows anybody to modify the software and release it commercially. B) The GPL allows software that is modified to be released as closed source software. C) The GPL only prohibits unmodified software from being commercially repackaged. D) D. The GPL ensures that all subsequent versions of software remain open source.
9.	To make your website mobile-friendly, you can make your website _____. A) Fast loading B) Light C) Reactive D) D. Responsive
10.	JDBC classes are defined in _____ packages. A) sql and javax.sql B) jdbc and javax.jdbc C) jdbc and java.jdbc.sql D) D. rdb and javax.rdb
11.	Which of the following method is static and synchronized in JDBC API? A) prepareCall() B) getConnection() C) executeUpdate() D) D. executeQuery()
12.	Which of the following is not a variable scope in PHP? A) Extern B) Local C) Global D) D. Static
13.	To use MySQL on your computer, you will need A) Perl, PHP or Java B) a browser C) FTP and Telnet D) D. some sort of client program to access the databases
14.	Which character is used in Python to make a single-line comment? A) / B) // C) ! D) D. #
15.	A specification of how the user moves from window to window, interacting with the application programs to perform useful work is called A) user dialogs B) navigation specifications C) interface specifications D) D. prototyping specifications
16.	How can you start a transaction in the database? A) By asking a transaction object to your connection and calling the method begin() on it B) By asking a transaction object to your connection and setting the autoCommit property of the transaction to false C) By calling the method beginTransaction() on the connection object D) By setting the autoCommit property of the connection to false and executing a statement in the database

17.	Identify false statement A) You can find deleted files in recycle bin B) You can restore any files in recycle bin if you ever need C) You can increase free space of disk by sending files in recycle bin D) You can right click and choose Empty Recycle Bin to clean it at once
18.	Operating system is a general kind of _____ software. A) Communication    B) Application    C) System    D) Word processing software
19.	Which one of the following is an incorrect statement about open-source tools? A) Octave and scilab are open source tools with MATLAB-like functionalities B) Gimp is an open source tool with adobe Photoshop-like functionalities C) Google drive tools are open source tools with MS-office-like functionalities D) Lirba Office/Open office is an open-source with MS-office-like functionalities
20.	For a dynamically allocated memory array b, what happens if it is not freed at the completion of a program? Which one is the only correct answer? A) The memory remains allocated, and is wasted B) The terminal process has its resources taken away from it by an operating system, as its convenience C) The operating system transfers this memory from the heap space to the stack space D) There is a compilation error
21.	Which one of the following statement is not correct, about wireless Access points and related technology? A) A wireless access point can connect to a router vide wired network B) A wireless access point can be a part of the wireless router itself C) A wireless access point cannot connect to an ADSL modem and router with an attached telephone network. D) A wireless router itself can support wired communication
22.	Which of the following IEEE standards describes a wired LAN protocol? A) IEEE 802.3    B) IEEE 802.11    C) IEEE 802.5    D) IEEE 802.1
23.	Which of the following points about <b>Ethernet</b> protocol is incorrect? A) The protocol is formally known as IEEE 802.3 B) The protocol was built on CSMA/CD C) The protocol follows a back-off procedure based on the Poisson distribution, in case of collision D) The protocol follows a back-off procedure based on the exponential distribution, in case of collisions.
24.	Which one of the following will happen on trying to free a statically allocated array? A) A compilation error    B) A run-time error    C) No error    D) None
25.	Which of the following is correct? A) Every binary relation is in BCNF B) Normal forms are unnested C) Every 3NF is in BCNF D) All attributes in INF are non-atomic

26.	<p>Consider the following statements:</p> <ul style="list-style-type: none"> <li>I. Metadata is about data</li> <li>II. All views are updateable</li> </ul> <p>Which one of the following is correct?</p> <ul style="list-style-type: none"> <li>A) Only I is true</li> <li>B) Only II is true</li> <li>C) Both are true</li> <li>D) Both are false</li> </ul>
27.	<p>What parameters are needed for a MYSQL connection in PHP?</p> <ul style="list-style-type: none"> <li>A) servername, database name</li> <li>B) servername, username, password</li> <li>C) database name, servername, username, password</li> <li>D) username, password</li> </ul>
28.	<p>Suppose a subnet id is 12.5.148.0, with a subnet mask 255.255.255.0. Identify which of the following ip addresses can be assigned to the clients by DHCP.</p> <ul style="list-style-type: none"> <li>A) 12.5.148.0, 12.5.148.96</li> <li>B) 12.5.148.23, 12.5.148.255</li> <li>C) 12.5.148.62, 12.5.148.36</li> <li>D) 12.5.148.220, 12.5.148.0</li> </ul>
29.	<p>Which of the following measures will address 'disc error' while booting</p> <ul style="list-style-type: none"> <li>I. Examining all non-bootable storage media and detaching</li> <li>II. Checking for damaged IDE or SATA cables</li> <li>III. Changing the boot order</li> <li>IV. Reinstalling the hard drive</li> </ul> <ul style="list-style-type: none"> <li>A) I and II only</li> <li>B) II and III only</li> <li>C) I, II and IV only</li> <li>D) All the four steps are equally valid</li> </ul>
30.	<p>Identify the diagnostic testing process used by a computer's fundamental input/output system (or "beginning program") to evaluate whether the computer keyboard, random access memory, disc drives, and other hardware are functioning properly.</p> <p>A) Safe Mode                      B) POST                      C) POP                      D) NetBios</p>
31.	<p>This kind of verification is used to look for flaws in data that has been sent through a communications link.</p> <p>A) Ring Back              B) Cyclic Redundancy Checking              C) Traceroute              D) Netstat</p>
32.	<p>Which of the following is true about proxy servers</p> <ul style="list-style-type: none"> <li>I. Proxy servers help adding extra layer of validation to secure certain resources</li> <li>II. Proxies servers can help in improving performance using load balancing strategies</li> <li>III. Proxy servers help in specifying the rules for packet delivery, denial, rejection etc.</li> <li>IV. Proxy servers act as replicas for a service</li> </ul> <p>A) I and II only              B) I and III only              C) II and III only              D) II and IV only</p>

33.	<p>Pick the correct statement(s) about web caching</p> <ul style="list-style-type: none"> <li>I. Forward Caching improves the web content access efficiency for out bound traffic of a network</li> <li>II. Forward Caching improves the web content access efficiency for in bound traffic of a network</li> <li>III. Reverse Caching improves the web content access efficiency for out bound traffic of a network</li> <li>IV. Reverse Caching improves the web content access efficiency for in bound traffic of a network</li> </ul> <p>A) I and III                      B) I and IV                      C) II and III                      D) II and IV</p>
34.	<p>Match the following RAID configurations with their technical functionalities</p> <ul style="list-style-type: none"> <li>1) RAID-0                      5) Mirroring</li> <li>2) RAID-1                      6) Striping</li> <li>3) RAID-5                      7) Byte level Striping with Parity</li> <li>4) RAID-3                      8) Block Level Striping with Distributed Parity</li> </ul> <p>A) 1-5, 2-6, 3-7, 4-8  B) 1-6,2-7, 3-8, 4-5  C) 1-6,2-5, 3-8, 4-7  D) 1-8,2-6, 3-7, 4-5</p>
35.	<p>Consider a scenario in which you could not reach a destination IP and could not identify a route to the next hop using TCP/IP stack. Identify the right action you would take to troubleshoot this problem</p> <ul style="list-style-type: none"> <li>(i) Ping the destination IP if the destination and source have the same subnet mask</li> <li>(ii) Ping the router's gateway IP address if the destination is on a different subnet mask.</li> <li>(iii) Use the command netstat -lt</li> <li>(iv) Use the command tcpdump -i eth0 dst host 8.8.8.8</li> </ul> <p>A) (i) and (ii)  B) (i) and (iii)  C) (i) and (iv)  D) (ii) and (iii)</p>
36.	<p>Which of the following refers to the fastest, biggest and the most expensive computers?</p> <p>A) Personal computers    B) Supercomputers    C) Laptops    D) Notebooks</p>
37.	<p>A collection of related information sorted and dealt with as a unit is a :</p> <p>A) Disk                      B) data                      C) file                      D) floppy</p>
38.	<p>A DVD is</p> <p>A) Optical disk                      B) Output device                      C) Pen drive                      D) Hard disk</p>
39.	<p>The process of transferring files from a computer on the internet to your computer is called</p> <p>A) Uploading                      B) forwarding                      C) FTP                      D) downloading</p>

40.	Problem of priority inversion can be solved by using A) Priority inheritance protocol B) Priority inversion protocol C) Priority intended protocol D) Priority integrated protocol
41.	DBMS is a collection of _____ that enables user to create and maintain a database A) Keys                      B) translators                      C) programs      D) language activity
42.	An advantage of the database management approach is A) Data is dependent on programs B) Data redundancy increases C) Data is integrated and accessed by multiple programs D) Increases Data anomalies
43.	Set of processes is in deadlock if A) Each process is blocked and will remain so forever B) Each process is terminated C) All processes are trying to kill each other D) All processes are in stand by form
44.	Three software parts of a GUI program are A) Window, button, mouse B) GUI components, graphics, codes C) GUI components, event listeners, application code D) Frames, code, event
45.	Any files deleted in Windows go to A) Trash can B) Recycle bin C) Deleted files D) RAM
46.	CHKDSK can be used to determine A) Disk's bad portion B) Occupied space C) Free space D) All of the above
47.	Wireshark is a _____ tool A) Network protocol analysis B) Network connection security C) Connection analysis D) Defending malicious packet-filtering
48.	For a basic 4-primary partition-based Linux installation, which of the following is not a usual choice for separate partition? A) /                      B) /home                      C) swap                      D) /tmp

49.	Which of the following statements about partitions is incorrect? A) There can be at most 4 primary partitions (with an MBR) B) There can be any number of secondary (logical) partitions (with an MBR) C) If a boot flag is set for more than one partition, none of them is booted D) If more than one partition is bootable, the first bootable partition is chosen for a booting, by default if there is a timeout for a user to choose from a menu
50.	Which of the following hardware operations is necessary for efficient implementation of swapping? A) DMA                      B) Cache                      C) Multi-core CPU                      D) GPU

**PART B (25 x 2 = 50 Marks).**

**Note: Wrong answer per each question in this part carries negative of 0.5 mark.**

51.	Given below are two statements. Statement I: The use of ICT in organizing teaching-learning programmes in Universities has the potential to optimize the learning outcomes. Statement II: Formative assessment provides support to enhance the quality of teaching-learning sessions. A) Both Statement I and Statement II are correct. B) Both Statement I and Statement II are incorrect. C) Statement I is correct, but Statement II is incorrect. D) Statement I is incorrect, but Statement II is correct.
52.	Given below are two statements. Statement I: Cache memory is faster than random access memory. Statement II: Random access memory is closer to the processor than cache memory. A) Both Statement I and Statement II are correct. B) Both Statement I and Statement II are incorrect. C) Statement I is correct, but Statement II is incorrect. D) Statement I is incorrect, but Statement II is correct.
53.	Which of the following statements are correct? Statement I: NKN stands for New Knowledge Network. Statement II: MOOCs are offline courses. Statement III: National Supercomputing Mission is a Government of India initiative. Statement IV: Param Shivay is a supercomputer. A) Statement III and Statement IV are correct. B) Statement II and Statement III are correct. C) Statement I and Statement IV are correct. D) Statement I and Statement III are correct.
54.	Which of the following statement(s) is/are true in respect of wireless technology? Statement I: Bluetooth is a wireless technology that can be used to connect a headset to a mobile phone. Statement II: Bluetooth is a long-range wireless technology and is a low-cost means of data transfer. A) Statement I is only correct. B) Statement II is only correct. C) Both Statement I and Statement II are correct. D) Neither Statement I nor Statement II is correct.



55.	<p>Which statement(s) is/are false?  Statement I: High availability has an adverse effect on energy efficiency.  Statement II: A datacenter stores and shares applications and data.</p> <p>A) Statement I  B) Statement II  C) Both Statement I and Statement II  D) Neither Statement I and Statement II</p>
56.	<p>What is the correct sequence to create a database connection?  I. Import JDBC packages  II. Open a connection to the database  III. Load and register the JDBC driver  IV. Execute the statement object and return a query result set  V. Create a statement object to perform a query  VI. Close the result set and statement objects  VII. Process the result set  VIII. Close the connection</p> <p>A) I, III, II, V, IV, VII, VI, VIII  B) I, II, III, V, IV, VII, VIII, VI  C) II, I, III, IV, VIII, VII, V, VI  D) I, III, II, IV, V, VI, VII, VIII</p>
57.	<p>Your router has the following IP address on Ethernet0: 172.16.2.1/23. Which of the following can be valid host IDs on the LAN interface attached to the router?</p> <ol style="list-style-type: none"> <li>1. 172.16.1.100</li> <li>2. 172.16.1.198</li> <li>3. 172.16.2.255</li> <li>4. 172.16.3.0</li> </ol> <p>A) 2 and 3 only      B) 3 and 4 only      C) 1, 2 and 3 only      D) 1, 3 and 4 only</p>
58.	<p>Which two statements describe the IP address 10.16.3.65/23?</p> <ol style="list-style-type: none"> <li>1. The subnet address is 10.16.3.0</li> <li>2. The lowest host address in the subnet is 10.16.2.1</li> <li>3. The last valid host address in the subnet is 10.16.2.254</li> <li>4. The broadcast address of the subnet is 10.16.3.255</li> </ol> <p>A) 1 and 3      B) 2 and 4      C) 1, 2 and 4      D) 2, 3 and 4</p>

59.	<p>Consider the following statements about Network operating system? <span style="float: right;">2M</span></p> <ul style="list-style-type: none"> <li>i. This type of system is very expensive to set up and maintain.</li> <li>ii. Trained network administrators are required for network administration.</li> <li>iii. Failure of any node in a system affects the whole system.</li> </ul> <p>Which of the above statements are True?</p> <p>A) i and ii                      B) ii and iii                      C) i and iii                      D) i, ii, and iii</p>
60.	<p>What is the subnetwork address for a host with the IP address 200.10.5.68/28?</p> <p>A) 200.10.5.56              B) 200.10.5.32              C) 200.10.5.64              D) 200.10.5.0</p>
61.	<p>You suspect your system is failing to boot because of a corrupt master boot record. Which utility is the best to fix this?</p> <p>A) Automated System Restore B) Device Manager C) System Restore D) Recovery Console</p>
62.	<p>The network address of 172.16.0.0/19 provides how many subnets and hosts?</p> <p>A) 7 subnets, 30 hosts each B) 8 subnets, 8,190 hosts each C) 8 subnets, 2,046 hosts each D) 7 subnets, 2,046 hosts each</p>
63.	<p>Which two statements describe the IP address 10.16.3.65/23?</p> <ul style="list-style-type: none"> <li>1. The subnet address is 10.16.3.0</li> <li>2. The lowest host address in the subnet is 10.16.2.1</li> <li>3. The last valid host address in the subnet is 10.16.2.254</li> <li>4. The broadcast address of the subnet is 10.16.3.255</li> </ul> <p>A) 1 and 3                      B) 2 and 4                      C) 1, 2 and 4                      D) 2, 3 and 4</p>

64.	Which of the following is the correct order of the four major functions of a computer? A) Process, output, input, storage B) Input, output, process, storage C) Process, storage, input, output D) Input, process, output, storage
65.	What aspect of DHCP allows servers to manage multiple physical networks? A) Renewal                      B) Rebinding                      C) Scopes                      D) Relay agents
66.	Wi-Fi stands for _____ A) Wireless Fidelity   B) Wireless Functioning   C) Wireless Function   D) Wireless Family
67.	Which of the following command is used to check Linux version? A) kernel                      B) uname -a                      C) uname -n                      D) uname -s
68.	What is the use of Ping command? A) To test a device on the network is reachable B) To test a hard disk fault C) To test a bug in a Application D) To test a Pinter Quality
69.	Which of the following is used to end the 408 process without allowing it to exit gracefully? A) kill 408                      B) kill -15 408                      C) kill -1 408                      D) kill -9 408
70.	Which of the following should be your first choice to remove an application that you no longer need? A) Delete the program files B) Use the uninstall program C) Use the Add or Remove Programs Applet D) Use the Registry Editor
71.	Which utility is useful in identifying a program that is hogging the processor? A) Task Manager    B) Device Manager   C) System Manager   D) Storage Manager
72.	Which password is used in the BIOS(CMOS) to prevent end uses from accessing the BIOS contents. A) Supervisor                      B) User                      C) Administrator                      D) Local
73.	BIOS of the computer is stored in _____ A) RAM    B) Hard Disk                      C) ROM                      D) FLOPPY Drive
74.	Which of the following is an example of an input device? A) Scanner                      B) Speaker                      C) CD Write                      D) Printer
75.	Which of the following operating systems does not support more than one program at a time? A) Linux                      B) Windows                      C) MAC                      D) DOS

**SPACE FOR ROUGH WORK**

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