राष्ट्रीय प्रौद्योगिकी संस्थान वरंगल
वरंगल – 506004, तेलंगाना, भारत
NATIONAL INSTITUTE OF TECHNOLOGY WARANGAL
WARANGAL – 506004, Telangana, INDIA

QUESTION BOOKLET – ADVANCED TEST FOR RECRUITMENT TO TECHNICAL CADRE POSTS

Post:	Sr. Technician
Dept.	CSE
Advt.:	01/2026 dated 09.01.2026
Date of Exam:	04-08-2026
Duration:	2 Hours
Total Marks:	200 (100 Q X 2 M each)
No. of Questions:	100 (MCQs)
Negative Marking:	1/4th mark for every wrong answer

INSTRUCTIONS TO THE CANDIDATES

1. This is an Advanced Test comprising 100 Multiple Choice Questions (MCQs), to be conducted in MCQ mode only.
2. The duration of the test is 2 hours.
3. Answers must be marked on the OMR Answer Sheet using a blue or black ballpoint pen only. Use of pencils is not permitted.
4. Candidates must write/mark their Roll Number, Post applied for, and other required details in the designated space on the OMR Answer Sheet.
5. Answers marked on the Question Booklet or on any sheet other than the OMR Answer Sheet will not be evaluated.
6. For each question, darken the circle corresponding to the correct answer completely and clearly on the OMR Answer Sheet.
7. Each question carries equal marks. There will be a negative marking of ¼ th mark for every wrong answer. No marks will be deducted for questions not attempted.
8. Mark only one answer for each question. Marking more than one circle for a question will be treated as a wrong answer.
9. Overwriting, cutting, or erasing that leaves the OMR Answer Sheet unclear may result in the answer not being evaluated.
10. No candidate shall leave the examination hall during the test.
11. Any attempt to copy, use unfair means, or communicate with others will result in immediate disqualification.
12. The use of electronic gadgets, calculators, mobile phones, smart watches, or any written/printed material is strictly prohibited.
13. Rough work, if any, should be done only on the separate sheet provided for the purpose.
14. Ensure that the OMR Answer Sheet is duly filled and handed over to the Invigilator before leaving the examination hall.
15. Failure to submit the OMR Answer Sheet will result in cancellation of candidature.
16. All material provided, including rough sheets, must be returned before leaving the examination hall.

1	In C language which operator has the highest precedence?
A)	*
B)	++ (postfix)
C)	&&
D)	?:
2	In C language_____header file contains malloc()?
A)	stdio.h
B)	string.h
C)	stdlib.h
D)	memory.h
3	Which is true about recursion?
A)	Always faster
B)	Requires stack memory
C)	Cannot replace loops
D)	Uses heap memory
4	The name of an array represents:
A)	Value of first element
B)	Address of first element
C)	Address of last element
D)	Number of elements
5	What is the index of the last element in an array of size 20?
A)	18
B)	19
C)	20
D)	21

6	What is the output?
	
	#include <stdio.h>
	
	intmain() {
	charstr[] ="Hello";
	printf("%lu", sizeof(str));
	return0;
	}

A)	5
B)	6
C)	7
D)	Depends on Compiler

7	What is the output?
	#include <stdio.h>
	
	intmain() {
	charstr[] ="CAT";
	printf("%d", str[1]);
	}

A)	65
B)	66
C)	67
D)	84
8	Which data type is used to indicate that a function returns no value?
A)	`null`
B)	`Void`
C)	`empty`
D)	`none`
9	Which feature of OOP improves software reusability?
A)	Encapsulation
B)	Inheritance
C)	Exception Handling
D)	Dynamic Memory Allocation

10	What is the output?
	intx=2;
	switch(x)
	{
	case1: printf("A");
	case2: printf("B");
	case3: printf("C");
	}

A)	B
B)	BC
C)	ABC
D)	Error
11	Which of the following is an infinite loop?
A)	A) `while(1)`
B)	B) `for(;;)`
C)	C) `do{}  while(1);`
D)	D) All of the above
12	Which statement about nested loops is correct?
A)	Only two levels of nesting are allowed.
B)	Any loop can be nested inside another loop.
C)	Only `for` loops can be nested.
D)	`while` loops cannot contain `do-while`.

13	What is the output of the following program?
	
	#include <stdio.h>
	
	intmain() {
	inta=10;
	int*p=&a;
	printf("%d %d", *p, p==&a);
	return0;
	}

A)	10 0
B)	10 1
C)	Address 1
D)	Compilation Error
14	A dangling pointer is:
A)	A NULL pointer.
B)	A pointer pointing to memory that has already been deallocated or is no longer valid
C)	A pointer initialized to zero.
D)	`A pointer pointing to a valid object.`
15	Which of the following is not a valid function declaration?
A)	`int fun();`
B)	`void fun(int);`
C)	`float fun(int, char);`
D)	`int fun(int a)(int b);`
16	Which of the following is not a feature of OOP?
A)	Encapsulation
B)	Inheritance
C)	Polymorphism
D)	Sequential Execution
17	Which operator is used to access members of an object through a pointer?
A)	.
B)	::
C)	->
D)	*
18	Which of the following is responsible for implementing data hiding?
A)	Encapsulation
B)	Inheritance
C)	Polymorphism
D)	Abstraction

19	Which type of polymorphism is achieved using virtual functions?
A)	Compile-time polymorphism
B)	Static polymorphism
C)	Run-time polymorphism
D)	Function polymorphism
20	Which statement best distinguishes overloading from overriding?
A)	Overloading occurs in the same class; overriding occurs in a derived class.
B)	Overloading requires virtual functions.
C)	Overriding is compile-time polymorphism.
D)	Overloading requires inheritance.
21	Which HTTP response code indicates Internal Server Error?
A)	404
B)	500
C)	302
D)	301
22	Which of the following is not an HTTP request method?
A)	GET
B)	POST
C)	SEND
D)	DELETE
23	_____ is the primary purpose of a digital certificate in HTTPS?
A)	Compress web pages
B)	Authenticate the server's identity
C)	Increase download speed
D)	Block cookies
24	Which attack is HTTPS primarily designed to mitigate?
A)	SQL Injection
B)	Cross-Site Scripting (XSS)
C)	Man-in-the-Middle (MITM) attacks through encrypted communication
D)	Buffer Overflow
25	Which of the following is not a feature of a web server?
A)	URL Mapping
B)	Request Handling
C)	Database Query Optimization
D)	SSL/TLS Support
26	Which of the following is a client-side scripting language?
A)	PHP
B)	Java
C)	JavaScript
D)	Python

27	Which of the following is not a JavaScript framework/library?
A)	React
B)	Angular
C)	Vue.js
D)	Bootstrap
28	Which of the following is a NoSQL database commonly used in web applications?
A)	MySQL
B)	Oracle
C)	MongoDB
D)	PostgreSQL
29	Which technique is commonly used to hide parts of sensitive values such as credit card numbers?
A)	Data Masking
B)	RAID
C)	Token Ring
D)	Multiplexing
30	Which clause of ISO/IEC 27001 focuses on Risk Assessment and Risk Treatment?
A)	Clause 4
B)	Clause 5
C)	Clause 6
D)	Clause 10
31	Which data structure provides O(1) insertion at both front and rear?
A)	Stack
B)	Priority Queue
C)	Deque
D)	Binary Heap
32	An array-based implementation is preferred when:
A)	Frequent middle insertions are required
B)	Random access is dominant
C)	Size changes unpredictably
D)	Memory must be allocated node-wise
33	Which operation is NOT efficiently supported by a singly linked list?
A)	Insert at head
B)	Delete after known node
C)	Backward traversal
D)	Sequential traversal
34	In postfix evaluation, which data structure is primarily used?
A)	Queue
B)	Stack
C)	Heap
D)	BST

35	Which condition indicates queue overflow in a linear array queue?
A)	Front==-1
B)	Rear==(size-1)
C)	Front==rear
D)	Rear==-1
36	_____ tree traversal visits Left, Root, Right?
A)	Preorder
B)	Postorder
C)	Inorder
D)	Level order
37	A circular queue mainly solves:
A)	Hash collisions
B)	False sharing
C)	Wasted space after deletions
D)	Recursion overhead
38	A BST constructed from sorted input without balancing becomes:
A)	Complete
B)	Perfect
C)	Skewed
D)	AVL
39	Prim's algorithm is generally more efficient when the graph is:
A)	Sparse
B)	Dense
C)	Directed
D)	Unweighted
40	The root of a max-heap always contains:
A)	Smallest key
B)	Median key
C)	Largest key
D)	Most recently inserted key
41	A connected weighted graph has 15 vertices. How many edges will its Minimum Spanning Tree contain?
A)	15
B)	14
C)	16
D)	Depends on edge weights
42	Which application commonly uses a B-Tree?
A)	CPU Scheduling
B)	Database Indexing
C)	Expression Evaluation
D)	Process Synchronization

43	Which data structure is commonly used to implement DFS iteratively?
A)	Queue
B)	Heap
C)	Stack
D)	Linked List
44	Which sorting algorithm is stable by default?
A)	Quick Sort
B)	Heap Sort
C)	Merge Sort
D)	Selection Sort
45	Which sorting algorithm generally performs the fewest number of swaps among the following?
A)	Bubble Sort
B)	Insertion Sort
C)	Selection Sort
D)	Merge Sort
46	Binary Search requires the data to be:
A)	Hashed
B)	Sorted
C)	Unique
D)	Stored in linked list
47	Divide and Conquer is the primary design strategy behind:
A)	Bubble Sort
B)	Merge Sort
C)	Linear Search
D)	Insertion Sort
48	Greedy algorithms make decisions based on:
A)	Future global optimum
B)	Locally optimal choice
C)	Backtracking
D)	Memorization
49	If an array stores 200 integers starting at address 4000, and each integer occupies 4 bytes, what is the address of the 51st element?
A)	4200
B)	4204
C)	4208
D)	4196
50	Dijkstra's Algorithm cannot produce correct results when a graph contains:
A)	Self-loops
B)	Negative edge weights
C)	Parallel edges
D)	Isolated vertices

51	In a relational model, degree is termed as
A)	number of tables
B)	number of attributes.
C)	number of rows.
D)	number of candidate keys of the table.
52	In an E-R diagram double lines indicate
A)	Total participation.
B)	Multiple participation.
C)	Cardinality N.
D)	None of the above.
53	Which clause is used to sort the result of a query?
A)	HAVING
B)	ORDER BY
C)	GROUP BY
D)	DISTINCT
54	Which SQL statement removes all rows from a table but keeps its structure?
A)	DROP
B)	DELETE
C)	TRUNCATE
D)	ALTER
55	Which of the following is NOT a valid purpose of a Foreign Key?
A)	Maintaining referential integrity
B)	Establishing relationships between tables
C)	Preventing orphan records
D)	Enforcing uniqueness of child table rows
56	Which of the following is NOT guaranteed by Two-Phase Locking (2PL)?
A)	Conflict Serializability
B)	Recoverability
C)	Deadlock Freedom
D)	Isolation
57	After groups have been established, SQL applies predicates in the _____ clause, allowing aggregate functions to be used.
A)	Where
B)	Having
C)	Group by
D)	With
58	Which of the following is the property of transaction that protects data from system failure?
A)	Atomicity
B)	Isolation
C)	Durability
D)	Consistency

59	Which command removes a table and all of its data from a PostgreSQL database?
A)	DELETE TABLE
B)	DROP TABLE
C)	REMOVE TABLE
D)	ERASE TABLE
60	Which query correctly returns the first 5 rows from the employee table?
A)	SELECT TOP 5 * FROM employee;
B)	SELECT * FROM employee LIMIT 5;
C)	SELECT FIRST 5 * FROM employee;
D)	SELECT * FROM employee FETCH 5;
61	What is the output? SELECT COUNT(ManagerID) FROM Employee If 3 rows contain NULL in ManagerID out of 20 rows.
A)	20
B)	3
C)	17
D)	NULL
62	Which protocol is responsible for logical addressing in the TCP/IP suite?
A)	ARP
B)	IP
C)	ICMP
D)	TCP
63	Which OSI layer is responsible for end-to-end communication?
A)	Data Link
B)	Session
C)	Transport
D)	Network
64	A Layer 2 switch forwards frames using:
A)	MAC address
B)	IP address
C)	Port number
D)	Subnet mask
65	Which protocol automatically assigns IP addresses?
A)	DNS
B)	DHCP
C)	ARP
D)	NTP

66	Which IPv6 address type replaces broadcast?
A)	Anycast
B)	Multicast
C)	Loopback
D)	Unicast
67	Which routing protocol uses Dijkstra's algorithm?
A)	RIP
B)	EIGRP
C)	BGP
D)	OSPF
68	TCP is
A)	Connection-oriented
B)	Connectionless
C)	Broadcast
D)	Routing protocol
69	VPN provides
A)	Caching
B)	Secure tunnel
C)	NAT
D)	Routing
70	Device forwarding packets using IP?
A)	Hub
B)	Switch
C)	Router
D)	Bridge
71	Which field in IPv4 prevents packets from looping indefinitely?
A)	Checksum
B)	TTL
C)	Protocol
D)	Identification
72	CIDR /27 provides how many usable host addresses?
A)	30
B)	32
C)	62
D)	14
73	ARP is used to resolve:
A)	Domain name to IP
B)	MAC address to Port
C)	IP address to MAC address
D)	MAC to DNS

74	Which protocol is commonly used by ping?
A)	TCP
B)	UDP
C)	ICMP
D)	ARP
75	NAT primarily conserves:
A)	Bandwidth
B)	MAC addresses
C)	CPU cycles
D)	Public IPv4 addresses
76	AES is a:
A)	Hash function
B)	Symmetric encryption algorithm
C)	Asymmetric algorithm
D)	Digital signature
77	RSA is mainly used for:
A)	Key exchange and digital signatures
B)	Symmetric encryption
C)	Hashing
D)	Compression
78	Which action best improves security when managing Cisco routers remotely?
A)	A) Enable Telnet access
B)	Use SSH instead of Telnet
C)	Disable passwords
D)	Use HTTP for management
79	Which hash algorithm is considered the most secure among these?
A)	MD5
B)	SHA-1
C)	SHA-256
D)	CRC32
80	SSL/TLS primarily provides:
A)	Routing
B)	Secure communication over networks
C)	Malware detection
D)	Load balancing
81	Which of these refers to the PowerPoint view used for displaying only the text (title and bullets)?
A)	Slide Sorter show
B)	Slide View
C)	Outline View
D)	Notes Page View

82	Which of the following shortcut key is used to start the slideshow?
A)	F5
B)	F3
C)	F1
D)	F6
83	In Linux, Identify the one which is not a communication command.
A)	mail
B)	mesg
C)	write
D)	grep
84	A smurf attack is a form of
A)	Distributed denial-of-service (DDoS) Attack
B)	Phishing
C)	Database attack
D)	Trojan
85	What type of malware is designed to spread through a network and cause damage?
A)	Worm
B)	Trojan
C)	Adware
D)	Ransomware
86	Which Linux command is used to see all the hidden files?
A)	ls
B)	ls -h
C)	ls -a
D)	dir –a
87	Which of the following is not a typical partition used in a Windows installation?
A)	System partition
B)	Recovery partition
C)	Data partition
D)	Swap partition
88	Which scheduling algorithm generally results in the maximum number of context switches?
A)	FCFS
B)	SJF
C)	Round Robin with very small time quantum
D)	Non-preemptive Priority
89	In Round Robin scheduling, reducing the time quantum generally:
A)	Reduces response time but increases context-switch overhead.
B)	Reduces waiting time for all processes.
C)	Eliminates starvation.
D)	Makes the algorithm non-preemptive.

90	In a paging system, logical address space consists of 64 pages of 1 KB each. The logical address requires:
A)	15 bits
B)	16 bits
C)	17 bits
D)	18 bits
91	A file system uses indexed allocation with an index block that can store 256 block pointers. If the disk block size is 4 KB, what is the maximum file size that can be addressed using a single index block?
A)	256 KB
B)	512 KB
C)	1 MB
D)	4 MB
92	Server logs are primarily analyzed to:
A)	Increase processor speed
B)	Detect errors, security incidents, and performance issues
C)	Reduce memory usage automatically
D)	Compress databases
93	A newly connected printer does not work until specific software supplied by the manufacturer is installed.The required software is:
A)	Compiler
B)	Device Driver
C)	Hypervisor
D)	Assembler
94	An attacker creates a Wi-Fi network named "Office_Free_WiFi", identical to the company's legitimate network, to capture employee credentials. This attack is called:
A)	Evil Twin Attack
B)	DNS Spoofing
C)	Session Hijacking
D)	Clickjacking
95	An organization delays installing a security patch. Attackers exploit a publicly known vulnerability before the update is applied.The attack exploits:
A)	A weak password policy
B)	An unpatched vulnerability
C)	A firewall rule
D)	A digital certificate

96	An organization requires every user and device to be continuously authenticated and authorized before accessing any network resource, even within the internal network. This security model is known as:
A)	Perimeter Security
B)	Zero Trust Architecture
C)	Open Access Model
D)	Network Address Translation
97	Which of the following is NOT a property of a secure cryptographic hash function?
A)	Collision Resistance
B)	Preimage Resistance
C)	Reversibility
D)	Second Preimage Resistance
98	Why are salts added before hashing passwords?
A)	To compress the password.
B)	To speed up hash computation.
C)	To prevent identical passwords from producing identical hashes and reduce rainbow table attacks.
D)	To encrypt the password.
99	Which mathematical operation is used during RSA encryption?
A)	XOR Operation
B)	Modular Exponentiation
C)	Matrix Multiplication
D)	Bit Rotation
100	Which security property is NOT directly provided by a digital signature?
A)	Authentication
B)	Integrity
C)	Non-repudiation
D)	Confidentiality

***