

Government Polytechnic, Diglipur

Recruitment for the Post of Lecturer (CSE) on Contractual Basis

Date of Examination: 18/08/2026

Exam Time: 10:00 AM - 12:00 PM

Exam Slot: A1

ANSWER KEY

#	Question	Answer Key	Remarks
1	Which of the following is a characteristic of a good algorithm? A. Clear and unambiguous steps B. Infinite number of steps C. No defined output D. Random execution order	A	
2	Computers in robotics are mainly used to A. Automate repetitive tasks B. Increase human workload C. Replace electricity D. Reduce Internet speed.	A	
3	Which storage device has no moving mechanical parts? A. HDD B. Floppy Disk C. SSD D. DVD	C	
4	Which storage capacity is the largest? A. XB B. GB C. TB D. PB	A	
5	The first page of a website is generally called the A. Login Page B. Home Page C. Search Page D. Contact Page	B	
6	Which software manages computer hardware? A. Application Software B. Utility Software C. System Software D. Spread sheet Software	C	
7	Which flowchart symbol represents a processing step? A. Rectangle B. Diamond C. Circle D. Arrow	A	

8	A student is solving a problem that requires repeated decisions. Which combination is most appropriate? A. Rectangle and Oval only B. Diamond and Flow Lines C. Circle and Rectangle only D. Parallelogram only	B	
9	CPU clock speed is commonly measured in A. Megabytes (MB) B. Gigahertz (GHz) C. Volts (V) D. Watts (W)	B	
10	Why are computers important in education? A. They support online learning and digital educational resources. B. They eliminate the need for teachers completely. C. They replace textbooks permanently. D. They work without electricity.	A	
11	Which statement is TRUE? A. Library functions must always be written by the programmer. B. User-defined functions are built into the C compiler. C. Library functions require appropriate header files. D. Local variables are stored permanently.	C	
12	Which of the following is the correct order for using a structure? A. Declare variable → Define structure B. Define structure → Declare structure variable → Access members C. Access members → Define structure D. Declare variable → Access members → Define structure	B	
13	Which of the following is the correct way to change the first element of an array a? A. a(0)=5; B. a[0]=5; C. a{0}=5; D. 0[a]=5;	B	
14	In the declaration int *ptr;, ptr is: A. An integer variable B. A pointer to an integer C. An array D. A function	B	
15	Which of the following correctly declares a string? A. string name = "John"; B. char name[20] = "John"; C. text name = "John"; D. char name = "John";	B	

16	Which statement correctly copies "India" into the array country? A. country = "India"; B. copy(country, "India"); C. strcpy(country, "India"); D. country.copy("India");	C	
17	Memory allocated for local variables inside a function is: A. Static B. Dynamic C. Automatic D. Global	C	
18	What is the output? int a[4]={2,4,6,8}; printf("%d", a[3]); A. 2 B. 4 C. 6 D. 8	D	
19	What happens if a recursive function has no terminating condition? A. The program executes normally. B. The recursion stops automatically. C. The program may run indefinitely and cause a stack overflow. D. The compiler reports an error.	C	
20	What will be the output? char name[] = "Hello"; printf("%c", name[2]); A. H B. e C. l D. o	C	
21	A node that has no children is called: A. Parent node B. Internal node C. Leaf node D. Root node	C	
22	What is the time complexity of the enqueue operation? A. O(n) B. O(log n) C. O(1) D. O(n²)	C	
23	Which of the following is an advantage of using data structures? A. Slower processing B. Better organization and efficient data management C. Increased memory wastage D. Elimination of algorithms	B	

24	Which case is generally considered while calculating time complexity? A. Best case B. Average case C. Worst case D. Random case	C	
25	Which of the following has logarithmic time complexity? A. Binary Search B. Linear Search C. Bubble Sort D. Printing an array	A	
26	What is the average-case time complexity of Quick Sort? A. $O(n^2)$ B. $O(n \log n)$ C. $O(n)$ D. $O(\log n)$	B	
27	Which pointer is used to indicate the top element of a stack? A. Head B. Front C. Top D. Rear	C	
28	Which searching technique is suitable for unsorted data? A. Binary Search B. Linear Search C. Tree Search D. Random Search	B	
29	Which sorting algorithm sorts integers digit by digit? A. Bubble Sort B. Radix Sort C. Merge Sort D. Selection Sort	B	
30	What is the time complexity of traversing an array of size N once? A. $O(1)$ B. $O(\log n)$ C. $O(n)$ D. $O(n^2)$	C	
31	A virtual function is declared in the A. Derived class only B. Base class C. Main function D. Constructor	B	

32	Which symbol is used to dereference a pointer? A. & B. * C. # D. %	B	
33	Which of the following is a valid C++ comment? A. // This is a comment B. /* This is a comment */ C. Both A and B D. # This is a comment	C	
34	Which access specifier allows members to be inherited but not accessed directly from outside the class? A. public B. protected C. private D. static	B	
35	What happens if a matching case does not contain a break statement? A. The program terminates immediately. B. Control falls through to the next case(s). C. Compilation fails. D. The default case is skipped.	B	
36	Which statement about objects is TRUE? A. A class can exist only after an object is created. B. Multiple objects can be created from a single class. C. An object cannot access class members. D. Every object must belong to a different class.	B	
37	What happens if the loop condition is false initially? A. The loop executes once. B. The loop executes infinitely. C. The loop body is skipped. D. Compilation error occurs.	C	
38	Who developed the C++ programming language? A. Dennis Ritchie B. Bjarne Stroustrup C. James Gosling D. Guido van Rossum	B	
39	What is the Output ? <pre>int x = 5; cout << x++;</pre> A. 5 B. 6 C. 4 D. Error	A	

40	Which feature allows a derived class to provide its own implementation of a virtual function? A. Function Overloading B. Function Overriding C. Encapsulation D. Abstraction	B	
41	Which scheduler selects processes from the ready queue? A. Long-term Scheduler B. Medium-term Scheduler C. Short-term Scheduler (CPU Scheduler) D. Job Scheduler	D	
42	During context switching, the Operating System saves the A. File contents B. Process state in the PCB C. Database records D. Cache memory only	B	
43	Turnaround time is A. Completion Time – Arrival Time B. Burst Time – Waiting Time C. Arrival Time – Completion Time D. Waiting Time – Burst Time.	A	
44	Which of the following is the correct sequence for executing an application? A. User → Operating System → Hardware → Application B. User → Hardware → Operating System → Application C. User → Application → Operating System → Hardware D. Hardware → User → Application → Operating System	C	
45	Which scheduler is invoked most frequently? A. Long-term Scheduler B. Medium-term Scheduler C. Short-term Scheduler D. Job Scheduler	C	
46	Which memory management technique loads pages into memory only when required? A. Static Allocation B. Demand Paging C. Swapping D. Segmentation	B	
47	Which table is used to map logical addresses to physical addresses in paging? A. Process Table B. File Allocation Table C. Page Table D. Routing Table	C	

48	In a layered operating system, the bottom-most layer is A. User Interface B. Application Programs C. Hardware D. File System	C	
49	Aging is a technique used to prevent A. Deadlock B. Starvation C. Paging D. Fragmentation	B	
50	Which memory management technique divides memory into fixed-size blocks? A. Segmentation B. Paging C. Swapping D. Spooling	B	
51	Which topology uses a single backbone cable to connect all devices? A. Ring B. Bus C. Mesh D. Tree	B	
52	Hamming Code is mainly used for: A. Encryption B. Error correction C. Data compression D. Routing	B	
53	Which connector is commonly used with telephone cables? A. RJ-11 B. RJ-45 C. BNC D. SC	A	
54	Which cable has a central conductor surrounded by an insulating layer and metallic shield? A. Twisted Pair Cable B. Optical Fiber Cable C. Coaxial Cable D. Ribbon Cable	C	
55	A router primarily operates at which OSI layer? A. Physical Layer B. Data Link Layer C. Network Layer D. Application Layer	C	

56	Which protocol is used for reliable data transmission? A. UDP B. IP C. TCP D. ARP	C	
57	Which device broadcasts incoming data to all connected ports? A. Switch B. Router C. Hub D. Bridge	C	
58	Which type of twisted pair cable has no metallic shielding? A. STP B. UTP C. FTP D. Coaxial	B	
59	Which device connects two similar LAN segments? A. Modem B. Bridge C. Router D. Gateway	B	
60	Consider the following statements: 1. HTTP uses TCP. 2. FTP uses TCP. 3. DNS always uses TCP only. 4. SMTP uses TCP. A. 1, 2 and 4 are True B. 2 and 3 are True C. 1 and 3 are True D. All are True	A	
61	Which normal form removes transitive dependency? A. 1NF B. 2NF C. 3NF D. 4NF	C	
62	The Customer table with attributes Name, Phoneno. I want to add Rollno column .which command to use. A. Alter B. Insert C. Add D. Select	A	
63	A foreign key in one table usually references the A. Candidate Key of the same table B. Primary Key of another table C. Composite Key only D. Alternate Key only	B	

64	Which of the following correctly represents the hierarchy of data organization? A. Field → Record → File → Database B. Database → File → Record → Field C. Record → Field → Database → File D. File → Database → Record → Field	A	
65	Which ACID property ensures that a transaction is completed entirely or not executed at all? A. Consistency B. Isolation C. Atomicity D. Durability	C	
66	In a functional dependency $X \rightarrow Y$, X is called the A. Dependent attribute B. Determinant C. Candidate key D. Foreign key	B	
67	In Relational data model, the degree of a relation Student(Rollno, Name, Age, DoB) is A. 1 B. 4 C. 3 D. 2	B	
68	Which ACID property prevents concurrent transactions from interfering with each other? A. Atomicity B. Isolation C. Durability D. Consistency	B	
69	Which of the following is the smallest unit of data in a file system? A. Record B. Field C. File D. Database	B	
70	A primary Key can not contain A. Null value B. Duplicate value C. Null and duplicate value D. Unique	C	
71	The primary goal of User Interface (UI) design is to: A. Increase software size B. Make software easy and efficient to use C. Reduce memory size D. Replace software testing	B	

72	Which quality characteristic is related to moving software from one platform to another? A. Maintainability B. Portability C. Correctness D. Budget	B	
73	Prototyping is mainly used to: A. Replace the final product B. Help users visualize requirements C. Test databases D. Increase coding speed	B	
74	KLOC stands for: A. Kilo Level of Coding B. Kilo Line of Code C. Kernel Line of Code D. Known Line of Code	B	
75	A software project ends when: A. Coding is completed B. Testing is completed C. The intended software product is delivered and objectives are achieved D. Documentation starts	C	
76	A project is defined as: A. A routine daily activity B. A temporary endeavor with a specific goal C. An ongoing business operation D. A maintenance activity	B	
77	Integration Testing is performed to: A. Test complete software B. Test interaction between modules C. Test individual functions only D. Test user requirements	B	
78	Which SDLC phase verifies whether the software meets the specified requirements? A. Maintenance B. Testing C. Requirement Analysis D. Deployment	B	
79	Project planning is performed: A. After deployment B. Before software production starts C. During maintenance D. After testing	B	

80	Validation answers the question: A. "Are we building the product right?" B. "Are we building the right product?" C. "Is coding completed?" D. "Is maintenance required?"	B	
81	Which of the following is not a pointing device? A. Mouse B. Joystick C. Digitizer D. Light Pen	C	
82	A daughter board is: A. The main motherboard B. An expansion board connected to the motherboard C. A processor chip D. A memory module	B	
83	SMPS is mainly used for obtaining A. High-frequency AC supply B. Controlled DC supply C. Variable resistance D. Mechanical power	B	
84	Which connector supplies electrical power to the motherboard? A. SATA Connector B. ATX Power Connector C. USB Connector D. VGA Connector	B	
85	What is the purpose of “Safe Mode” in windows troubleshooting? A. To run the computer at maximum performance. B. To test hardware components. C. To start windows with a minimal set of drivers and services. D. To uninstall software	C	
86	Battery capacity is generally measured in A. Volt B. Watt C. Ampere-hour (Ah) D. Ohm	C	
87	A customer calls and report that her computer shuts down and reboots on its own. What is the possible cause? A. The BIOS is set to reboot automatically every day. B. Her External SCSI CD-RW is using too much power. C. The CMOS is configured to cycle power at certain time. D. The power supply is not providing enough power to the system.	D	

88	What is the Purpose of a task manager in troubleshooting? A. To install software updates B. To monitor system performance and terminate unresponsive applications. C. To scan for viruses. D. To defragment the hard drive.	B	
89	The number of function keys in a keyboard is A. 14 B. 12 C. 13 D. 15	B	
90	Which type of files can Disk Cleanup remove? A. Temporary files B. System cache files C. Recycle Bin files D. All of the above	D	
91	The Cohen–Sutherland algorithm is mainly used for: A. Circle generation B. Polygon filling C. Line clipping D. Scaling	C	
92	The region where graphics are displayed is called the: A. Frame Buffer B. Clipping Window C. Viewport D. Pixel Map	B	
93	Bitmap images are best suited for: A. Logos only B. Photographs and realistic images C. Mathematical equations only D. Text documents only	B	
94	Rendering is the process of: A. Compressing images B. Generating a shaded image from a 3D model C. Scanning documents D. Encrypting graphics.	B	
95	Which memory stores the pixel information of an image? A. Cache Memory B. Frame Buffer C. ROM D. Register	B	
96	The initial point in the Midpoint Circle Algorithm is: A. (r, 0) B. (0, r) C. (r, r) D. (1, 1)	B	

97	Which function is generally used to determine the pixel position in the DDA algorithm? A. Floor() B. Ceil() C. Round() D. Abs()	C	
98	Which algorithm is commonly used for polygon clipping? A. Cohen–Sutherland B. Bresenham C. Sutherland–Hodgman D. DDA	C	
99	In raster scanning, the image is drawn: A. Bottom to top B. Right to left C. Top to bottom, one scan line at a time D. Randomly	C	
100	In Bresenham's algorithm, if $p_k \geq 0$, the next pixel is: A. $(x_k + 1, y_k)$ B. $(x_k, y_k + 1)$ C. $(x_k + 1, y_k + 1)$ D. $(x_k - 1, y_k - 1)$	C	