



University of Dhaka
PMICS Admission Test, Sample Questions
Department of Computer Science and Engineering

Answer all of the following 50 mutiple choice questions. Each question has only one correct answer carrying 2 marks. No negative marking will be applied for wrong answers.

Time: 60 Minutes

Total Mark: 100

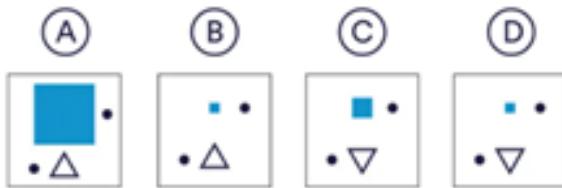
1. Which number should come next in the series - 0, 1, 1, 2, 4, 7, 13, 24, 44, ...?
A. 68 B. 81 C. 64 D. 91

2. A store reduces the price of one product by 20 percent. How much extra percentage amount of that product will you get with the original price?
A. 25 B. 27 C. 20 D. 35

3. Two points $(-12, 0)$ and $(0, 16)$ are on a line. Which one of the following points is also on that line?
A. $(-4, 10)$ B. $(20, 4)$ C. $(-3, 12)$ D. $(20, 30)$

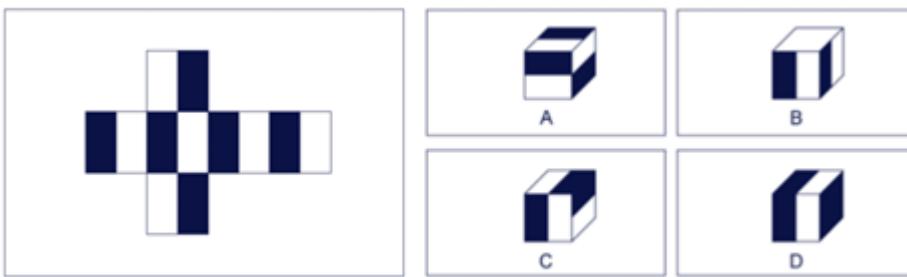
4. In a group of 25 teenagers, 12 enjoy playing cricket. What is the probability that a teenager chosen at random enjoys playing cricket?
A. 0.48 B. 0.12 C. 0.40 D. 0.52

5. Identify the pattern and work out which one of the suggested images would complete the sequence.



6. A company wants to increase its sales force by 12.5% and simultaneously lower of non-sales staff by 7.5%. The company currently has 24 sales and 120 non-sales personnel. What will be the total number of staff after the desired changes?
A. 150 B. 139 C. 138 D. 151

7. Which 3D shape can be made from the following 2D net by folding it?



8. How rigorously a bug is affecting the application is known as _____.

- A. fixability B. severity C. traceability D. priority

9. Software security is an aspect of software _____.

- A. process assurance B. quality assurance C. produce assurance D. All of those

10. Suppose a client sends an HTTP request message with the ‘If-modified-since’ header. Suppose the object in the server has not changed since the last time that client retrieved the object. Then the server will send a response message with the status code _____.

- A. 304 Not Modified B. 404 Not Found C. 200 OK D. 403 Permission denied

11. Which one of the following is used to contain an Internet standard?

- A. RFC B. IETF C. DNS D. PPP

12. Which one of the following protocols uses out-of-band signalling?

- A. HTTP B. SMTP C. FTP D. CUBIC

13. Which one of the following is the responsibility of the transport layer?

- A. Logical addressing B. Routing C. Service Point Addressing D. Forwarding

14. Consider a subnet with prefix 101.101.101.64/26. Which can be an example of one IP address (of form xxx.xxx.xxx.xxx) that can be assigned to a host of this network?

- A. 101.101.101.128 B. 101.101.101.63 C. 101.101.101.65 D. 101.101.101.64

15. Which one of the following is NOT an application layer service?

- A. Remote login B. File transfer and access C. Mail service D. Reliable data transfer

16. DNS server listens to the port number _____.

- A. 22 B. 53 C. 25 D. 80

17. Which one of the following is NOT directly accessible by the CPU?

- A. Register B. SRAM C. DRAM D. SSD

18. Which one of the following registers is NOT found in CISC processor?

- A. Link register B. Segment register C. Stack pointer register D. Accumulator register

19. Which one of the following statements is false?
- A. Ethernet card may have MAC address
 - B. A router can function as a NAT
 - C. Email client can receive email from Mail Server through SMTP protocol
 - D. DHCP is used to assign IP address to client computers
20. What is the maximum file size of FAT32 file system?
- A. 4 GB
 - B. 32 GB
 - C. 1 TB
 - D. 32 TB
21. What is the full form of POST operation of BIOS?
- A. Post Operative Security Test
 - B. Power On Self Test
 - C. Passive Optional Security Test
 - D. PC Operating System Test
22. Inter Process Communication (IPC) of an operating system uses synchronization tools/schemes to keep information consistent while using shared memory. Choose a tool given below that suits the best.
- A. Semaphore
 - B. Lock
 - C. Monitor
 - D. Process serialization
23. Which of the following is true for the deployment of in-processor cache memory?
- A. Speedup the disk access
 - B. Pipe lining and branch operation consistency
 - C. To minimize page fault
 - D. Speed up memory access
24. A sender application needs _____ for sending a TCP packet.
- A. to access the communication device
 - B. to use a system call
 - C. an interrupt for I/O access
 - D. a connection to the transport layer
25. Nowadays, most Operating Systems support multiple file systems. In high-level programming, we open, create, read or write a file irrespective of the file system. To have these features, the kernel developer must deploy _____.
- A. overlay file system
 - B. object-oriented virtual function to access files
 - C. fast file system (FFS)
 - D. virtual file system
26. A virus code copies itself to a program and modifies the address space of _____.
- A. the process table
 - B. kernel process entry
 - C. application and liker tag
 - D. program and reallocation table
27. Non-repudiation property is ensured by _____.
- A. Hash
 - B. MAC
 - C. Digital Signature
 - D. Encryption

28. Which one of the following is a stream cipher?
A. RC4 B. Triple DES C. AES D. RSA
29. IPSec is designed to provide security at the _____ layer.
A. transport B. network C. application D. presentation
30. Which one of the following measures should be followed to prevent SQL injection attacks?
A. User output should be validated
B. Access privileges should be strictly imposed
C. Privileges escalation should be allowed
D. All of the above
31. What practices should NOT be followed to improve password security?
A. Password file in a system should be a simple plaintext file
B. Increase password complexity by combining uppercase, lowercase letters, numbers and special symbols
C. Enforce policy to bound users to change password after every three months
D. Impose strict access privileges
32. Which one of the following statements is true?
A. A worm attempts to infect other computers in the network before affecting an individual computer
B. Trojan horse performs both the operation of the original and malicious programs
C. Keylogger automatically steals user information
D. All of the above
33. Which one of the following attacks exhausts the target server's bandwidth?
A. Man-in-the-middle attack
B. Denial of service attack
C. Phishing attack
D. Impersonation attack
34. Which one of the following statements is true for signature-based Intrusion Detection System (IDS)?
A. It can detect new, zero-days malware
B. It identifies malware based on anomalous behavior
C. It can be employed in both host-based and network-based IDS
D. All of the above
35. Which one of the following protocols is NOT essential for traceroute to work properly?
A. IP B. UDP C. ICMP D. HTTP
36. Why do DNS lookups run over UDP instead of TCP?
A. They require reliable data transfer
B. They want to avoid call setup and header overhead
C. They require congestion control
D. All of the above

37. Elements of defensive coding include all of the following except:

- A. Custom cryptographic functions to avoid algorithm disclosure
- B. Exception handling to avoid program termination
- C. Interface coding efforts to avoid API-facing attacks
- D. Cryptographic agility to make cryptographic functions stronger

38. What are the ACID properties of DBMS?

- A. Automobility, Concurrency, Isolation, Durability
- B. Atomicity, Consistency, Isolation, Durability
- C. Automatic, Concurrency, Isolation, Duplicability
- D. Autochange, Consistency, Isomorphism, Duplicability

39. Which one of the following is NOT an example of DBMS?

- A. MySQL
- B. Microsoft Access
- C. IBM DB2
- D. Google

40. What is ‘data about data’ called?

- A. Hyper data
- B. Tera data
- C. Meta data
- D. Relations

41. The values appearing in given attributes of any tuple in the referencing relation must likewise occur in specified attributes of at least one tuple in the referenced relation, according to _____ integrity constraint.

- A. referential
- B. primary
- C. secondary
- D. check

42. What will be the best splitting of the following table?

University(Dept_Name, Dept_Location, Faculty, Student_ID, Student_Name)

- A. (Dept_Name, Dept_Location, Faculty) and (Student_ID, Student_Name)
- B. (Dept_Name, Dept_Location, Faculty, Student_ID) and (Student_ID, Student_Name)
- C. (Dept_Name, Dept_Location, Faculty) and (Student_ID, Student_Name, Dept_Name)
- D. (Dept_Name, Dept_Location, Faculty) and (Student_ID, Student_Name, Faculty)

43. The ability to query data, as well as to insert, delete, and update tuples, is offered by

- A. Data Definition Language (DDL)
- B. Data Manipulation Language (DML)
- C. Data Control Language (DCL)
- D. Transaction Control Language (TCL)

44. Which command is used to remove a relation from a database?

- A. Drop table
- B. Delete table
- C. Remove table
- D. Purge table

45. What will be the output of the following code snippet?

```
int a = 1, b = 2;  
int t = ++a + b++;  
printf(“%d”, t);
```

- A. 3
- B. 4
- C. 5
- D. 6

46. Which one of the following is NOT a correct identifier in C/C++?

- A. c0rect
- B. _correct
- C. \$correct
- D. correct

47. Which one of the following is a valid variable type in C++ but not in C?

- A. float
- B. long long int
- C. bool
- D. char

48. How do structures and classes in C++ differ?

- A. Structures cannot have private members, whereas classes can
- B. Structures by default hide every member, whereas classes do not
- C. In structures, members are private by default, whereas, in Classes, they are public by default
- D. In structures, members are public by default, whereas, in Classes, they are private by default

49. Which one of the following statements is true about abstract data types (ADTs)?

- A. ADTs are primarily concerned with low-level memory management
- B. ADTs provide a specific implementation for data manipulation and storage
- C. ADTs hide implementation details and expose only the necessary operations
- D. ADTs are only used in object-oriented programming languages

50. What is the worst-case time complexity for searching an element in a balanced binary search tree?

- A. $O(1)$
- B. $O(n)$
- C. $O(\log n)$
- D. $O(n \log n)$

===== THE END =====