

***PART A: Multiple Choice Questions (40 × 1 = 40 Marks)***

- 1. Which of the following best explains the Von Neumann architecture?***
  - a) Parallel processing of instructions*
  - b) Storing both program and data in the same memory*
  - c) Using multiple CPUs to execute tasks*
  - d) Only using cache memory for processing*
- 2. Which type of memory is used to increase the speed between RAM and CPU?***
  - a) ROM*
  - b) SSD*
  - c) Cache*
  - d) Hard Disk*
- 3. Which of the following is not a function of an operating system?***
  - a) Memory management*
  - b) Antivirus scanning*
  - c) Process scheduling*
  - d) File system management*
- 4. What is the main advantage of using an SSD over an HDD?***
  - a) More storage*
  - b) Lower price*
  - c) Faster read/write speed*
  - d) Longer lifespan*
- 5. In binary representation, what is the result of 1101 & 1011?***
  - a) 1001*
  - b) 1111*
  - c) 1101*
  - d) 1010*
- 6. Which of the following software is system software?***
  - a) MS Excel*
  - b) Device drivers*
  - c) VLC Media Player*
  - d) Adobe Photoshop*
- 7. How many bytes are there in 1 Kilobyte (KB)?***
  - a) 1000*
  - b) 1024*
  - c) 512*
  - d) 2048*
- 8. What is the purpose of device drivers?***
  - a) Manage internet connection*
  - b) Interface between hardware and OS*
  - c) Encrypt data*
  - d) Clean junk files*

9. **What is the correct CSS syntax to change the font color of all <h1> elements to blue?**
- a) `h1.color = "blue";`
  - b) `h1 { text-color: blue; }`
  - c) `h1 { color: blue; }`
  - d) `h1:color;`
10. **What will happen if you use an empty `href="#"` in an anchor tag?**
- a) It links to the homepage
  - b) It links to an error page
  - c) It reloads the current page
  - d) It breaks the webpage
11. **Which of the following positions an element relative to the browser window?**
- a) relative
  - b) absolute
  - c) fixed
  - d) sticky
12. **What is the output of the following HTML code?**
- ```
<p><b>Text</b> <i>Italic</i></p>
```
- a) Text Italic (bold only)
  - b) Italic Text (italic only)
  - c) Text Italic (bold and italic)
  - d) Error
13. **How do you create a list in HTML that uses bullet points?**
- a) `<ul>`
  - b) `<ol>`
  - c) `<dl>`
  - d) `<list>`
14. **Which CSS property controls the spacing between lines of text?**
- a) word-spacing
  - b) text-align
  - c) line-height
  - d) letter-spacing
15. **What is the result of using `position: absolute;` inside a relatively positioned container?**
- a) It positions the element relative to the body
  - b) It positions relative to the container
  - c) It breaks out of the container
  - d) It hides the element
16. **Which of the following is used to make a responsive layout in modern web design?**
- a) Tables
  - b) Flexbox
  - c) Inline styles
  - d) Frames
17. **Which of the following is not a valid C variable name?**
- a) `_count`

- b) total1
- c) lvalue
- d) sum

**18. What is the output of this code?**

```
int a = 5, b = 2;
```

```
printf("%d", a / b);
```

- a) 2.5
- b) 2
- c) 2.0
- d) Error

**19. What is the output of this loop?**

```
int i;  
for(i=0;i<3;i++)  
{  
    printf("%d ", i);  
}
```

- a) 0 1 2
- b) b 1 2 3
- c) 0 1 2 3
- d) Infinite loop

**20. Which keyword is used to define a function in C?**

- a) method
- b) func
- c) function
- d) None (functions are defined using return type)

**21. Which of these is used for dynamic memory allocation in C?**

- a) malloc()
- b) new
- c) allocate()
- d) alloc()

**22. In C, what is the output of:**

```
int x = 10;  
printf("%d", x++);
```

- a) 10
- b) 11
- c) 9
- d) Error

**23. Which of the following will compare two strings in C?**

- a) strcmp()
- b) equals()
- c) str\_equal()
- d) ==

**24. What is the default return type of a C function if not specified?**

- a) void
- b) int
- c) float
- d) error

**25. Which of the following statements is correct about a foreign key?**

- a) It uniquely identifies a record
- b) It allows NULLs and duplicates
- c) It must reference a primary key in another table
- d) It is same as the primary key

**26. What is the output of:**

`SELECT COUNT(*) FROM students WHERE class = '10';`

- a) Total number of students
- b) Students in class 10
- c) All rows from the table
- d) None of the above

**27. Which SQL clause is used to filter the results of a query?**

- a) GROUP BY
- b) ORDER BY
- c) WHERE
- d) HAVING

**28. What does this SQL command do?**

`ALTER TABLE students ADD address VARCHAR(50);`

- a) Removes the address column
- b) Creates a new table
- c) Adds a new column to students
- d) Modifies existing data

**29. Which SQL keyword is used to sort records in descending order?**

- a) SORT DESC
- b) ORDER BY DESC
- c) DESC
- d) SORTING

**30. A relation in a database is a:**

- a) Row
- b) Column
- c) Table
- d) Key

**31. Which of the following ensures uniqueness in a column?**

- a) UNIQUE
- b) DEFAULT

- c) *CHECK*
- d) *NOT NULL*

**32. What will the following SQL statement do?**

*DELETE FROM students WHERE id=5;*

- a) *Delete the entire table*
- b) *Delete all students*
- c) *Delete student with ID 5*
- d) *Show error*

**33. Which layer in OSI model is responsible for encryption and decryption?**

- a) *Network layer*
- b) *Transport layer*
- c) *Presentation layer*
- d) *Application layer*

**34. What is the primary function of DNS?**

- a) *File transfer*
- b) *Translate domain names to IP addresses*
- c) *Assign IP addresses*
- d) *Block malicious sites*

**35. Which of these IP addresses is private?**

- a) *8.8.8.8*
- b) *192.168.1.1*
- c) *172.35.10.2*
- d) *210.20.10.3*

**36. Which device operates on the Data Link layer?**

- a) *Router*
- b) *Hub*
- c) *Switch*
- d) *Modem*

**37. What is the default port number for HTTP?**

- a) *23*
- b) *25*
- c) *80*
- d) *443*

**38. Which protocol is used for sending emails?**

- a) *POP3*
- b) *IMAP*
- c) *SMTP*
- d) *FTP*

**39. Which type of network covers a city or a large campus?**

- a) *LAN*
- b) *WAN*
- c) *MAN*
- d) *PAN*

**40. Which of the following transmission mediums is immune to electromagnetic interference?**

- a) Twisted pair
- b) Coaxial cable
- c) Optical fiber
- d) Wireless

***PART B: Subjective Questions (6 × 10 = 60 Marks)***

Answer any 6 questions. Each carries 10 marks.

1. What do you mean by memory ? write any five differences between RAM and ROM.
2. Write a simple HTML program to display your name, your school's name, and add a clickable link that opens the official website of Kankali School in a new tab. (Website URL: <https://www.kankalishchool.edu.np>).
3. Define programming language. Write a C program to input two numbers and print the sum.
4. Define database. Write SQL command to create a table named "student" with ID, name, and class fields.
5. Write any five differences between LAN and WAN? Give any two examples of each.
6. What do you mean by loop ? Write a program in C to print numbers from 1 to 5 using a for loop.