Section A   1 mark each

1. **Which of the following SQL statements is used to retrieve rows from two tables where there is a matching condition?**
   a) UNION   b) INTERSECT   c) JOIN   d) DISTINCT
   Answer: c) JOIN

2. **What type of join retrieves all rows from both tables, even if there is no match between them?**
   a) INNER JOIN   b) FULL OUTER JOIN   c) LEFT JOIN   d) CROSS JOIN
   Answer: b) FULL OUTER JOIN

3. **If you want to retrieve only matching rows from two tables, which join will you use?**
   a) LEFT JOIN   b) FULL OUTER JOIN   c) INNER JOIN   d) RIGHT JOIN
   Answer: c) INNER JOIN

4. **Which of the following joins retrieves all records from the left table and matching records from the right table?**
   a) LEFT OUTER JOIN   b) INNER JOIN   c) RIGHT OUTER JOIN   d) FULL OUTER JOIN
   Answer: a) LEFT OUTER JOIN

5. **Consider two tables Students and Courses. Which SQL clause will retrieve all combinations of rows from both tables?**
   a) CROSS JOIN   b) INNER JOIN   c) NATURAL JOIN   d) UNION
   Answer: a) CROSS JOIN

6. **What will the query SELECT * FROM A NATURAL JOIN B do?**
   a) Returns all combinations of rows from A and B.
   b) Returns rows with common columns and identical values.
   c) Returns rows from A only.
   d) Returns rows from B only.
   Answer: b) Returns rows with common columns and identical values.

7. **What does an ON clause specify in a SQL join?**
   a) Conditions for joining tables   b) Rows to delete from a table
   c) A sorting order for a query   d) Columns to select
   Answer: a) Conditions for joining tables

8. **Which join will include unmatched rows from the right table and NULLs in non-matching columns of the left table?**
   a) LEFT JOIN   b) RIGHT JOIN   c) INNER JOIN   d) FULL OUTER JOIN
   Answer: b) RIGHT JOIN

9. **Given two tables A and B, a FULL OUTER JOIN will return rows where:**
   a) A and B match only.
   b) A matches B or A does not match B.
   c) Only unmatched rows from both A and B.
   d) None of the above.
   Answer: b) A matches B or A does not match B.

10. **Which SQL keyword is used to combine rows from two or more tables based on a related column?**
    a) WHERE   b) JOIN   c) GROUP BY   d) ORDER BY
    Answer: b) JOIN

11. **Which set operation combines the results of two SQL queries and eliminates duplicate rows?**
    a) UNION   b) UNION ALL   c) INTERSECT   d) EXCEPT
    Answer: a) UNION

12. **What is the difference between UNION and UNION ALL in SQL?**
    a) UNION removes duplicate rows; UNION ALL includes duplicates.
    b) UNION includes unmatched rows; UNION ALL excludes them.
    c) UNION returns rows sorted; UNION ALL does not.

d) UNION combines columns; UNION ALL combines rows.
Answer: a) UNION removes duplicate rows; UNION ALL includes duplicates.

13. **Which set operation returns only rows that are present in both query results?**
    a) UNION   b) INTERSECT   c) EXCEPT   d) UNION ALL
    Answer: b) INTERSECT

14. **Which SQL set operation returns rows from the first query that are not present in the second query?**
    a) INTERSECT   b) UNION   c) EXCEPT   d) JOIN
    Answer: c) EXCEPT

15. **Consider two tables A and B. What does the query SELECT * FROM A UNION ALL SELECT * FROM B do?**
    a) Returns only matching rows between A and B.
    b) Returns all rows from both A and B, including duplicates.
    c) Returns rows from A that are not in B.
    d) Returns rows common to both A and B.
    Answer: b) Returns all rows from both A and B, including duplicates.

16. **What is a computer network?**
    A) A collection of hardware devices connected without software
    B) A system of interconnected computers that share resources
    C) A single computer system running multiple applications
    D) A standalone device used for processing data
    Answer: B

17. **Which of the following is NOT a type of computer network?**
    A) LAN   B) WAN   C) CAN   D) HTML
    Answer: D

18. **What is the full form of LAN?**
    A) Local Area Network   B) Linear Access Network
    C) Limited Area Network   D) Large Area Network
    Answer: A

19. **Which device is used to connect multiple networks together?**
    A) Switch   B) Hub   C) Router   D) Repeater
    Answer: C

20. **Which topology uses a single cable to connect all the devices in a network?**
    A) Star topology   B) Bus topology   C) Ring topology   D) Mesh topology
    Answer: B

21. **Which of the following is a key advantage of a computer network?**
    A) Faster processing speed in standalone systems   B) Easy resource sharing
    C) Eliminates hardware costs   D) Requires no maintenance
    Answer: B

22. **What does HTTP stand for?**
    A) Hyper Transfer Protocol   B) Hyper Text Transfer Protocol
    C) High Text Transmission Protocol   D) Hyper Text Transmission Protocol
    Answer: B

23. **Which of the following is an example of a Wide Area Network (WAN)?**
    A) The Internet   B) A school's local network
    C) Bluetooth connection between devices   D) Office LAN
    Answer: A

24. **What is the main function of a switch in a network?**
    A) To connect devices within a network and forward data to the correct destination
    B) To convert data into analog signals
    C) To amplify weak signals
    D) To provide internet connectivity
    Answer: A

25. **Which protocol is commonly used for email services?**
    A) FTP   B) SMTP   C) HTTP   D) DHCP
    Answer: B

26. What is the full form of URL?
a) Universal Resource Locator
b) Uniform Resource Locator
c) Unified Resource Locator
d) Uniform Reference Link
Answer: b) Uniform Resource Locator

27. Which of the following is NOT a web browser?
a) Mozilla Firefox   b) Google Chrome   c) Microsoft Word   d) Safari
Answer: c) Microsoft Word

28. What is the primary purpose of a search engine?
a) To display advertisements
b) To store files on the web
c) To search for information on the internet
d) To create web pages
Answer: c) To search for information on the internet

29. Which protocol is used to transfer files over the Internet?
a) FTP   b) HTTP   c) SMTP   d) POP
Answer: a) FTP

30. What does WWW stand for?
a) World Wide Web   b) Wide World Web c) Web World Wide d) Wide Web World
Answer: a) World Wide Web

31. Which of the following is an example of an email protocol?
a) HTTP   b) SMTP   c) FTP   d) DNS
Answer: b) SMTP

32. What does the term "Hyperlink" mean in web technology?
a) A file that stores website data
b) A clickable link that redirects to another location
c) A software used to access the internet
d) A protocol for transferring data
Answer: b) A clickable link that redirects to another location

33. Which of the following is an example of a top-level domain (TLD)?
a) .html   b) .org   c) /index   d) www
Answer: b) .org

34. The unique address of a website is called its _____.
a) Domain Name   b) IP Address   c) Protocol   d) Browser
Answer: a) Domain Name

35. Which technology is used to design static web pages?
a) JavaScript   b) Python   c) HTML   d) SQL
Answer: c) HTML

36. What does digital divide refer to?
a) Difference between developed and underdeveloped countries
b) Gap between individuals with access to digital technology and those without
c) Difference in knowledge between students and teachers
d) Disparity in income levels among citizens
Answer: b) Gap between individuals with access to digital technology and those without

37. Which of the following is an example of a negative impact of social media?
a) Improved communication   b) Spread of misinformation
c) Faster sharing of ideas   d) Increased global connectivity
Answer: b) Spread of misinformation

38. Which law in India protects individuals' data from unauthorized access?
a) Information Technology Act, 2000   b) Consumer Protection Act, 2019
c) Right to Education Act, 2009   d) Cybersecurity Act, 2022
Answer: a) Information Technology Act, 2000

39. What is cyberbullying?

a) Using the internet to educate people
b) Using technology to harass, threaten, or humiliate someone
c) A way of teaching children about technology
d) Posting positive comments online
Answer: b) Using technology to harass, threaten, or humiliate someone

40. Which of the following is an example of e-waste?

a) Plastic bags   b) Used smartphones   c) Paper and cardboard   d) Old clothes
Answer: b) Used smartphones

41. What does net neutrality ensure?

a) Equal access to the internet for all users without discrimination
b) Increased internet speeds for certain users
c) Government control over internet services
d) Restriction on social media usage
Answer: a) Equal access to the internet for all users without discrimination

42. What is the primary goal of digital literacy?

a) To create new software
b) To teach people how to use digital technology effectively
c) To improve programming skills
d) To reduce the cost of internet services
Answer: b) To teach people how to use digital technology effectively

43. Which of the following is a key concern with Artificial Intelligence (AI)?

a) High efficiency   b) Reduced human errors c) Job displacement   d) Increased accuracy
Answer: c) Job displacement

44. What is a potential solution to reduce the digital divide?

a) Increase the cost of internet access
b) Provide affordable internet and digital devices
c) Limit the use of technology in rural areas
d) Ban social media platforms
Answer: b) Provide affordable internet and digital devices

45. What is the primary reason for increasing cybercrimes globally?

a) Improved internet infrastructure
b) Lack of cybersecurity awareness
c) High-quality digital literacy programs
d) Decrease in technological advancements
Answer: b) Lack of cybersecurity awareness

46. What does Intellectual Property primarily protect?

A. Tangible assets like buildings and vehicles
B. Intangible creations of the mind   C. Natural resources   D. Physical goods
Answer: B

47. Which of the following is NOT a type of Intellectual Property?

A. Copyright   B. Trademark   C. Patent   D. Inventory
Answer: D

48. What does a patent protect?

A. Brand logos   B. Artistic and literary works
C. Inventions and processes   D. Confidential information
Answer: C

49. For how long does copyright protection typically last in India?

A. 20 years from creation   B. 60 years from the creator's death
C. 10 years from registration   D. 70 years from the creator's death
Answer: B

50. A trademark primarily protects which of the following?

A. A company's goodwill   B. Symbols, logos, and brand names
C. Scientific discoveries   D. Government data   **Answer**: B