CLASS :XI SUBJECT:COMPUTER SCIENECE

Q:2 Write short answer of following questions:

1. Provide two examples of data encoding & decoding applications that involves logical gates.
2. How memory circuit use logic gates? Give their significance in digital system.
3. How does design phase contribute to the development of a software system?
4. How does mesh topology provide redundancy in network communication?
5. Compare & contrast horizontal scalability & vertical scalability in cloud computing.
6. Differentiate between symmetric & asymmetric encryption methods.
7. What is the primary purpose of firewall in network security ,& how does it work?
8. Explain how SDLC helps in reducing software bugs during development.
9. Define cybersecurity. Also give its significance in todays interconnected world.
10. What is the principal of duality in Boolean algebra >& why is it important in digital logic?
11. Can you provide examples of sources that are considered reliable & sources that are unreliable?
12. How has computing technology facilitated increased connectivity between individuals communities.
13. What are some potential consequences of using unreliable information without verifying its credibility?
14. Differentiate between simulations & prototypes.
15. Why is successful product development important?
16. In what way is alpha prototype different from beta prototype.
17. Define digital literacy & its significance.
18. What are some potential consequences of using unreliable information without verifying its credibility?
19. Write steps to design a google form to conduct a survey.
20. How reports are a good tool of data presentation.
21. Write the difference between nominal and ordinal data with examples.
22. Explain the difference between a population and a sample in statistical analysis.
23. How can you reduce bias in an experiment? Name one way.
24. Why is it important to have a large sample size in an experiment?
25. How to solve data science case study?
26. Difference between supervised & unsupervised learning with the help of example.
27. Differentiate between regression & classification model.
28. If you want to make a report regarding the products exported from Pakistan in last five years,how libraries can help you to collect data?Write steps
29. Define the concept of a list in Python and how it can be modified. Provide an example.
30. What is the difference between the `==` operator and the `is` operator in Python?
31. Describe the function of a for loop in Python. Write a program that prints numbers from 1 to 10 using a `for` loop.
32. What is the purpose of the `input()` function in Python? Explain with an example.
33. Differentiate between global & local variables with the help of suitable example.
34. Explain two properties of computational thinking and their importance in problem-solving.
35. Describe what a computational artifact is and provide two examples.
36. Outline the steps involved in computational solution design.
37. Briefly explain the role of algorithm design in creating efficient solutions.
38. "Describe and explain common methods for evaluating the efficiency and performance of algorithms.
39. Why is successful product development important?
40. In what way is alpha prototype different from beta prototype.