Data Compression Objective Question

1. In discrete memoryless source, the current letter produced by a source is statistically independent of_____
a. Past output
b. Future output
c. **Both a and b**
d. None of the above

2. Which coding terminology deals with the inverse operation of assigned words of second language corresponding to the words in the first language?

a. Enciphering

b. **Deciphering**

c. Codeword

d. Codebook

3. Which bitmap file format/s support/s the Run Length Encoding (RLE)?

a. TIFF

b. BMP

c. PCX

d**. All of the above**

4. In dictionary techniques for data compaction, which approach of building dictionary is used for the prior knowledge of probability of the frequently occurring patterns?

a. **Static Dictionary**

b. Adaptive Dictionary

c. Both a and b

d. None of the above

5. Which type of channel does not represent any correlation between input and output symbols?

a. Noiseless Channel

b. Lossless Channel

c. **Useless Channel**

d. Deterministic Channel

6. In channel coding theorem, channel capacity decides the _____permissible rate at which error free transmission is possible.

a. **Maximum**

b. Minimum

c. Constant

d. None of the above

7. If the channel is bandlimited to 6 kHz & signal to noise ratio is 16, what would be the capacity of channel?

a. 15.15 kbps

b. **24.74 kbps**

c. 30.12 kbps

d. 52.18 kbps

8. According to Shannon's second theorem, it is not feasible to transmit information over the channel with _____error probability, although by using any coding technique.

a. **small**

b. large

c. stable

d. unpredictable

9. Which among the following represents the code in which codewords consists of message bits and parity bits separately?

a. Block Codes

b. **Systematic Codes**

c. Code Rate

d. Hamming Distance

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11. In a linear code, the minimum Hamming distance between any two code words is _____minimum weight of any non-zero code word.

a. Less than

b. Greater than

c. **Equal to**

d. None of the above

12. Basically, Galois field consists of _____ number of elements.

a. **Finite**

b. Infinite

c. Both a and b

d. None of the above

13. According to linearity property, the _____ of two code words in a cyclic code is also a valid code word.

a. **sum**

b. difference

c. product

d. division

14. What is the value of leading coefficient of a monic polynomial?

a. 0.5

b. **1**

c. 4

d. 16

15. While decoding the cyclic code, if the received code word is similar as transmitted code word, then r(x) mod g(x) is equal to _____

a. **Zero**

b. Unity

c. Infinity

d. None of the above

16. For designing of (4,1) cyclic repetition code, what would be the order of the generator polynomial g(x)?

a. 1

b. **3**

c. 4

d. 5

17. At any given time, the output of an encoder depends on _____

a. Past input

b. Present input

c. **Both a and b**

d. None of the above

18. The partition in which the tag resides depends on the _____of the sequence being encoded.(first symbol)

19. *Dictionary order* is sometimes used as a synonym for _____order.(lexicographic)

20. The ordering of words in a dictionary is a good (maybe the original) example of _____ordering. (lexicographic)

21. Static dictionary technique is most appropriate when considerable _____

about the source is available.(prior knowledge)

22. A static dictionary technique that is less specific to a single application is_____. (*digram coding)*

23. The dictionary consists of all letters of the source _____followed by as many pairs of letters, called *digrams (*alphabet)

24. The digram encoder reads a _____input and searches the dictionary to see if this input exists in the dictionary.(two-character)

25. The approaches based on the 1977 paper are said to belong to the_____ family.(LZ77)

26. Window consists of two parts, a _____ *and* _____ .

27. The distance of the pointer from the look-ahead buffer is called the_____.(*offset)*

28. LZ77 scheme is a _____scheme.(*adaptive)*

29. In LZ78 inputs are coded as a _____.(double)

30. best-known applications of LZW:_____, and_____.(GIF ,V.42 bis)

31. The UNIX compress command is one of the earlier applications of_____.(LZW)

32. _____has become quite popular for encoding all kinds of images, both computer-generated and “natural” images. (GIF)

33. The best-known context-based algorithm is the ____algorithm,(PPM)

34. The basic algorithm initially attempts to use the _____context.(largest)

35. An _____is encoded and the algorithm attempts to use the next smaller

context.(escape symbol)

36.mtf Stands for _____.

37.CALIC Stands for _____.

38. The CALIC scheme actually functions in two modes, one for _____and another for bi-level images.(gray-scale images)

39. In facsimile transmission, a page is scanned and converted into a sequence of_____. (black or white pixels)

40. Earliest name of the facsimile coding is_____.

41. One that is not a type of data redundancy is

A. coding

B. spatial

C. temporal

D. facsimile

Answer D

42. The dictionary in LZ encoding consists of _____ entries that refer to substrings

in the original file.(indexed)

43. Lempel-Ziv encoding is a type of _____-based encoding.(dictionary)

44. Run length encoding is a compression method in which repeated _____ of a symbol are replaced.(occurance)