Quiz

Note: All questions carry equal marks (60 x 1 =60)

1. What is compression?
   a. To convert one file to another
   b. To reduce the size of data to save space
   c. To minimize the time taken for a file to be downloaded
   d. To compress something by pressing it very hard
2. Digital video is sequence of
   a. A. pixels
   b. B. matrix
   c. C. **frames**
   d. D. coordinates
3. Sequence of code assigned is called
   a. A. **code word**
   b. B. word
   c. C. byte
   d. D. nibble
4. If the P(E) = 1, it means event
   a. does not occur
   b. **always occur**
   c. no probability
   d. Normalization
5. Source of information depending on finite no of outputs is called
   a. A. markov
   b. B. finite memory source
   c. C. zero source
   d. D. Both A and B
6. Information per source is called
   a. A. sampling
   b. B. quantization
   c. C. entropy
   d. D. normalization
7. Compression is done for saving
   a. A. storage
   b. B. bandwidth
   c. C. money
   d. D. Both A and B
8. Information ignored the human eye is the
   a. A. coding redundancy
   b. B. spatial redundancy
   c. C. temporal redundancy
   d. D. irrelevant info
9. An Image is represented by 65536 X8 bits, and after compression it reduced to 16384 X8 bits. What will be the compression ratio:

a. 55%
b. 65%
c. 75%
d. 85%

10. An Image is Square array of 256X256 pixel requires 65536 bytes, and after compression it reduced to 16384 X8 bytes. What will be the compression rate:
a. 2
b. 3
c. 4
d. 5
11. In the encoded file, which type of changes are made in sysmbols ?
a. They are compressed
b. They are changed to a letter or symbol
c. They are represented in the graphical form
d. **No changes are made**
12. An alphabet consist of the letters A, B, C and D. The probability of occurrence is P(A) = 0.4, P(B) = 0.1, P(C) = 0.2 and P(D) = 0.3. The Huffman code is

a. A = 01
B = 111
C = 110
D = 10
b. A = 0, B = 100, C = 101, D = 11
c. .A = 0, B = 111, C = 11, D = 101
d. A = 0, B = 11, C = 10, D=111
13. The basic idea behind Huffman coding is to
a. compress data by using fewer bits to encode fewer frequently occuring characters
b. **compress data by using fewer bits to encode more frequently occuring characters**
c. compress data by using more bits to encode more frequently occuring characters
d. expand data by using fewer bits to encode more frequently occuring characters
14. Huffman coding is an encoding algorithm used for
a. **lossless data compression**
b. files greater than 1 Mbit
c. broadband systems
d. lossy data compression
15. A Huffman code: A = 1, B = 000, C = 001, D = 01 ,P(A) = 0.4, P(B) = 0.1, P(C) = 0.2, P(D) = 0.3
The average number of bits per letter is
a. 8.0 bit
b. 2.0 bit
c. 1.9 bit
d. 2.1 bit
16. Huffman trees use the _____ of each character to work out their encoding.
a. Frequency
b. Order in ASCII
c. Number value
d. Both (a) and (b)

17. Calculate the entropy for : P(A) = 0.4, P(B) = 0.2, P(C) = 0.2, P(D) = 0.1,P(E) =0.1
   a. 1.24
   b. 1.22
   c. 1.28
   d. 1.30

18. Average length of Extended Huffman code is upper bounded by :
   a. R
   b. R+1
   c. R-1
   d. R+1/n

19. If the probability is not given which method is preferable
   a. Huffman
   b. Non Binary Huffman
   c. Adaptive Huffman
   d. Extended Huffman

20. Compression method use for Integer type data
   a. Huffman
   b. LZ77
   c. Golomb Code
   d. Adaptive Huffman

21. In Huffman encoding, both the sender and receiver must have a copy of the code
   a. Same
   b. Different
   c. Generate on Demand
   d. Both (a) and (b)

22. In the multimedia contents, coding and decoding is performed by a software component known as:
   a. codec
   b. modec
   c. sodec
   d. bodec

23. 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

24. *Dictionary order* is sometimes used as a synonym for:
   a. Alphabetical order
   b. Lexicographical order
   c. Alphanumerical order
   d. Both (a) and (c)

25. How many character an encoder reads and searches the dictionary to see if this input exists in the dictionary.
   a. 2 character

b. 1 character
c. 3 character
d. Both (a) and (b)

26. Sliding windowing technique is used in which dictionary compression
a. LZW
b. LZ77
c. LZ78
d. Diagram coding

27. . The distance of the pointer from the look-ahead buffer is called :
a. Length
b. Offset
c. Triplet
d. Code

28. The UNIX compress command is one of the earlier applications of
a. LZ77
b. LZ78
c. Huffman
d. LZW

29. The basic algorithm initially attempts to use the _____context.
a. Small
b. Shortest
c. Longest
d. Zero

30. An _____is encoded and the algorithm attempts to use the next smaller context.
a. One length context
b. Zero context
c. Escape symbol
d. None

31. The CALIC scheme actually functions on :
a. bi-level images.
b. gray-scale images
c. RBG images
d. Both (a) and (b)

32. In facsimile transmission, a page is scanned and converted into a sequence of
a. Binary sequence
b. Ternary sequence
c. black or white pixels
d. alphanumeric sequence

33. _____has become quite popular for encoding all kinds of images, both computer-generated and "natural" images.
    a. GIF
    b. PNG
    c. TIFF
    d. JPEG
34. A static dictionary technique that is less specific to a single application is:
    a. LZ77
    b. Diagram Coding
    c. Initial dictionary
    d. LZW
35. Earliest name of the facsimile coding is_____.
    a. Feminine
    b. CALIC
    c. Telephone
    d. Fax
36. Window in dictionary method consists of _____ parts
    a. 1
    b. 3
    c. 2
    d. 4
37. 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

38. Digital video is sequence of
    a. pixels
    b. matrix
    c. f**rames**
    d. coordinates
39. The reconstruction of a _____constructed sequence is identical to the original sequence.
    a. losslessly
    b. lossy
    c. Predictive
    d. None of the above

40. We can improve the amount of _____by accepting a certain degree of loss during the compression process.

a. Compression
b. Decompression
c. Distortion
d. Compression ratio

41. The difference between the original and reconstructed data, which we will refer to as the _____in the reconstructed data.
    a. Redundancy
    b. Compression
    c. loss
    d. Distortion
42. The rate for a discrete source is simply the_____.
    a. Entropy
    b. Loss
    c. Noise
    d. Distortion
43. Popular measures of distortion is
    a. Squared error measure
    b. Absolute difference
    c. Noise
    d. Nats

44. Which file format stores multiple files in a single Zip file ?
    a. zap
    b. **zip**
    c. zop
    d. zep
45. The process of representing Infinite set of values with a much smaller set is called
    a. Mapping
    b. clustering
    c. Quantization
    d. Sampling
46. A simple quantization scheme would be to represent each output of the source with the ____value closest to it.
    a. Codeword
    b. Integer
    c. Binary sequence
    d. Coordinates
47. The design of the _____has a significant impact on the amount of compression.
    a. Cluster
    b. Quantizer

c. Codebook
d. Both (b) and (a)

48. Quantization techniques that operate on blocks of data are called
    a. Adaptive quantization
    b. Non uniform Quantization
    c. Scalar Quantization
    d. None of the Above
49. Set of L-dimensional blocks called the _____of the vector quantizer.
    a. Group
    b. Codebook
    c. Coding
    d. Index
50. LBG algorithm is used to design a _____.
    a. Quantizer
    b. Vector
    c. Codebook
    d. Index table
51. _____ shape is used to make codebook in structure vector quantization.
    a. Square
    b. Rectangle
    c. Circle
    d. Hexagon
52. In polar vector quantization r is called _____.
    a. Quantum
    b. Phase
    c. Magnitude
    d. None of above
53. In Tree structures vector quantization cluster is divided in
    a. 2 groups
    b. 3 groups
    c. Infinite groups
    d. N groups
54. Run length encoding is a compression method in which repeated _____ of a symbol are replaced.
    a. Residual
    b. Occurrence
    c. Letters
    d. None

55. Extended Huffman method is used due to
    a. Large alphabet
    b. Skewed probability
    c. Equal probability
    d. Both (a) and(b)
56. Probability model is based on
    a. Probability
    b. Physics
    c. Frequency
    d. None
57. Entropy of a source is
    a. Self information of the source
    b. Average self information
    c. Average number of bits
    d. Both (a) and (b)
58. ASCII Code is a example of
    a. Prefix code
    b. Variable length code
    c. Fixed length code
    d. Alphanumeric code
59. Code {0,10,100,111} is :
    a. UDC
    b. Prefix code
    c. Instantaneous code
    d. All above
60. Code {0,01,11,111} is UDC.
    a. True
    b. False