Reg. No. \_\_\_\_\_\_\_\_\_\_\_\_\_



**End Semester Examination – Nov / Dec – 2019**

|  |  |  |  |
| --- | --- | --- | --- |
|  |  |  |  |
| **Code :** | **14CS3057** | **Duration :** | **3hrs** |
| **Sub. Name :** | **MULTIMEDIA DATABASE** | **Max. Marks :** | **100** |

**ANSWER ALL QUESTIONS (5 x 20 = 100 Marks)**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Q. No.** | **Sub Div.** | **Questions** | **Course**  **Outcome** | **Marks** |
| 1. | a. | Explain the role of DBMS in handling multimedia data with suitable queries. Why DBMS could not handle multimedia data effectively? | CO1 | 12 |
| b. | Design a general MIRS architecture. Explain and justify your design. | CO2 | 8 |
| **(OR)** | | | | |
| 2. | a. | Describe the steps to be followed to reconstruct and convert an audio signal from digital to analog with different characteristics of audio signal. | CO1 | 15 |
| b. | Write the steps for encoding the video file associated with audio using MPEG – 1 format. | CO2 | 5 |
|  |  |  |  |  |
| 3. | a. | Discuss the various file structures to be used for automatic text document indexing and boolean retrieval model. | CO2 | 12 |
| b. | Elucidate the process of step by step classification method used in the classification of various audio track. | CO1 | 8 |
| **(OR)** | | | | |
| 4. | a. | Explain the digitization principles and parameters on digital image  representation. State how a compression technique has an important  measure in the areas of image representation. | CO1 | 15 |
| b. | Given below is the histogram of a query image and three images  (image1, image2, image3) in the database. Calculate the similarity  measurement between the query and all the three images. Then find  best matched image for the given query.  H**query** = (4, 4, 6, 6, 10, 10, 10, 10)  Himage1 = (8, 8, 8, 8, 8, 8, 8, 8)  Himage2 = (7, 7, 7, 7, 9, 9, 9, 9)  Himage3 = (2, 2, 10, 10, 10, 10, 10, 10) | CO3 | 5 |
|  |  |  |  |  |
| 5. | a. | What are the criteria for a good shape representation suitable for image indexing and retrieval? | CO2 | 10 |
| b. | What is a shot in video? What are the ways to prevent false shot detection in video indexing and retrieval? | CO1 | 10 |
| **(OR)** | | | | |
| 6. | a. | Discuss the basic components of a metasearch engine with a neat diagram. | CO2 | 10 |
| b. | Describe three frame selection methods. Compare their strength and weaknesses. | CO3 | 10 |
|  |  |  |  |  |
| 7. | a. | Discuss the advantages and disadvantages of using clustering based retrieval techniques. | CO1 | 8 |
| b. | Explain the five levels of RAID, discuss which level is most suitable for multimedia information retrieval applications. | CO2 | 12 |
| **(OR)** | | | | |
| 8. | a. | Why multimedia database search space should be reduced? Explain the filtering techniques to reduce the search space. | CO2 | 10 |
| b. | Assume that you are working as an operating system developer in XYZ Company. The job assigned to you is to design a multimedia operating system. What are the design issues you must take care while designing the multimedia operating system? | CO3 | 10 |
|  | | **Compulsory**: |  |  |
| 9. | a. | Discuss the multimedia data management for the web and e-commerce. | CO3 | 15 |
| b. | What is the role of knowledge management in managing and mining multimedia databases? | CO2 | 5 |