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



**UNIVERSITY**

(Karunya Institute of Technology & Sciences)

(Declared as Deemed-to-be University under Sec.3 of the UGC Act, 1956)

**End Semester Examination – April/May– 2017**

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| **Sub. Code:** | **14MT2031** | **Duration :** | **3hrs** |
| **Sub. Name :** | **ADVANCED AUDIO TECHNOLOGIES** | **Max. marks :** | **100** |

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

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| Q. No. | Sub Div. | Questions | Course  Outcome | Marks |
| 1. |  | Elaborate the following Microphone specification sheet parameters:  Acoustical operating principle: Pressure gradient transducer  Directional pattern: Cardioid  Frequency range: 20 Hz ... 20 kHz  Sensitivity at 1 kHz into 1 kohm: 23 mV/Pa  Rated impedance: 50 ohms  Rated load impedance: 1 kohms  Equivalent noise level, (A-weighted): 7 dB-A  Signal-to-noise ratio, (CCIR) (rel. 94 dB SPL): 76.5 dB  Signal-to-noise ratio, (A-weighted) (rel. 94 dB SPL): 87 dB  Maximum SPL for THD 0.5%: 138 dB  Maximum output voltage: 13 dBu  Polar pattern diagram  Frequency response chart | CO2 | 20 |
| (OR) | | | | |
| 2. |  | List out and explain the various areas of research that is ongoing with respect to microphones. | CO3 | 20 |
| 3. | a. | List out the various networked audio standards available in the industry with some of their main features. | CO2 | 12 |
|  | b. | Discuss the importance of the following topics with regard to networked Audio Solutions:  i.       LATENCY  ii.      REDUNDANCY  iii.     NETWORK TOPOLOGY  iv.     NETWORK SWITCHES | CO2 | 8 |
| (OR) | | | | |
| 4. | a. | Compare and contrast the entire feature set of Dante and AVB. | CO1 | 14 |
|  | b. | Explain the features of Cobranet, one of the widest used and earliest network protocolsdesigned for audio transport. | CO2 | 6 |
| 5. |  | List out and explain the parameters, the modern day analogue and digital mixer are expected to have with example products for the features. | CO1 | 20 |
| (OR) | | | | |
| 6. | a. | Detail the various features found in Digital audio interfaces that are available for retail, categorizing them into low and high budget. | CO1 | 12 |
|  | b. | What are HRTF’s? Explain their application in 3D VR audio. | CO1 | 8 |
| 7. | a. | Detail the various problems an audio engineer has to solve to provide good quality sound to a huge audience attending a rock concert. | CO2 | 10 |
|  | b. | With an example product explain the working of a Line array. | CO2 | 10 |
| (OR) | | | | |
| 8. | a. | List out some common features expected in a DAW at present. | CO2 | 10 |
|  | b. | Explain the process of creating samples for a VST. | CO3 | 10 |
|  | | **Compulsory:** |  |  |
| 9. | a. | Explain some of the most important features of Celemony’sMelodyne and how it is different from Antares Audio technologiesAutotune. | CO1 | 12 |
|  | b. | Explain how Izotopes RX5’s visual representation of audio is used to deal with various types of noise present in audio. | CO2 | 8 |

ALL THE BEST