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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| **Code :** | **16MT2004** | **Duration :** | **3hrs** |
| **Sub. Name :** | **PRINCIPLES OF AUDIO ENGINEERING** | **Max. marks :** | **100** |

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

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| Q. No. | Sub Div. | Questions | Course  Outcome | Marks |
| 1. | a. | Sketch a simple sound wave and point out all characteristics of a sound wave. Explain each one of them in detail. | CO1 | 15 |
| b. | Discuss: Human ears are not linear in their response to sound. | CO1 | 5 |
| (OR) | | | | |
| 2. | a. | Sketch a neat diagram of human ear anatomy. Divide the human ear into its three parts and explain them in detail. | CO1 | 15 |
| b. | Discuss: How humans ears perceive the direction of sound? | CO1 | 5 |
| 3. | a. | Sketch a neat diagram and differentiate between Dynamic Microphone and Condenser microphone based upon their working principle, sensitivity, ruggedness, and application. | CO2,CO3 | 14 |
|  | b. | Differentiate between AB miking technique and XY Miking Technique. | CO2,CO3 | 6 |
| (OR) | | | | |
| 4. | a. | Determine the polar pattern of microphone listed below:  Related image  (a) (b) (c) (d) (e) | CO1 | 5 |
|  | b. | List down all the specifications required to be checked in making a choice of a microphone for a specific application. Give an example and justify your answer. | CO2,CO3 | 15 |
| 5. | a. | Compare Active crossover network and Passive Crossover Network. | CO2 | 8 |
|  | b. | Sketch a neat diagram and show the various parts of a low frequency driver. Briefly explain their application. | CO1 | 12 |
| (OR) | | | | |
| 6. |  | Sketch, Compare and contrast the features of loudspeakers made up of Electromagnetic transducer and Piezoelectric transducer. | CO1 | 20 |
| 7. | a. | Explain: FTC Preconditioning | CO1 | 5 |
|  | b. | Discuss the critical specifications of an power amplifier to be studied before making a choice in purchasing one for a Live sound reinforcement. | CO2,CO3 | 15 |
| (OR) | | | | |
| 8. | a. | Compare and contrast an Analog audio mixer and Digital audio mixer. List down and explain the key track features available on an analog audio mixer. | CO2 | 8 |
|  | b. | Show how to choose a right power amplifier for a specific set of Loudspeakers. Assume the amplifier and loudspeaker power ratings. | CO2,CO3 | 12 |
|  | | **Compulsory**: |  |  |
| 9. | a. | List down atleast 4 different types of Equalizers and explain them in detail. | CO2,CO3 | 10 |
|  | b. | Estimate the space required to store a stereo digital audio recorded for 1 minutes in \*.wav format if the sampling rate and bit dept used were 44.1kHz and 16bit respectively. | CO1,CO2 | 10 |