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



**End Semester Examination – Nov/Dec – 2017**

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

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

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Q. No.** | **Sub Div.** | **Questions** | **Course**  **Outcome** | **Marks** |
| 1. | a. | Explain Loudness perception of human ear. | CO1 | 5 |
| b. | List down and explain the various characteristics of sound wave in detail. | CO1 | 15 |
| (OR) | | | | |
| 2. | a. | Define Interaural Time difference and Interaural intensity difference. Explain how they are significant in the spatial perception of human ear. | CO1 | 5 |
| b. | Sketch a neat diagram of human ear anatomy. Divide the human ear into its three parts and explain them in detail. | CO1 | 15 |
|  |  |  |  |  |
| 3. | a. | Sketch a neat diagram and differentiate between Dynamic Microphone and Condenser microphone based upon their working principle, sensitivity, ruggedness, and application. | CO2,3 | 14 |
|  | b. | Differentiate between AB miking technique and XY miking Technique. | CO2,3 | 6 |
| (OR) | | | | |
| 4 | a. | Classify microphones according to their Polar Pattern. Discuss their application, advantages and disadvantages. | CO1 | 14 |
|  | b. | List any three specifications of microphones critical in choosing a microphone for a specific application. | CO2 | 6 |
|  |  |  |  |  |
| 5 |  | Explain the significance of a crossover. Point out the differences between an Active Crossover network and Pasive crossover network. | CO2 | 20 |
| (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. | CO2,3 | 15 |
| (OR) | | | | |
| 8. | a. | Classify different types of audio mixers according to their applications. Compare and contrast their features. | CO2 | 8 |
|  | b. | Show how to choose a right amplifier for a specific set of Loudspeakers. Assume the amplifier and loudspeaker power ratings. | CO2 | 12 |
|  | |  |  |  |
|  | | **Compulsory**: |  |  |
| 9. |  | List down at least four different types of Equalizers and explain them in detail. | CO2,3 | 20 |