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

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**End Semester Examination – Nov/Dec – 2018**

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| **Code :** | **17MT2003** | **Duration :** | **3hrs** |
| **Sub. Name :** | **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. | List from the above given figure the :   1. Fundamental Frequency or Pitch 2. 2nd Harmonics 3. 2nd Overtones 4. Octaves | CO1 | 8 |
| b. | Mention the basic and advanced characteristics of a sound wave and explain each one of them in detail. | CO4 | 12 |
| (OR) | | | | |
| 2. |  | A seat in a concert hall is 84ft from the tympani. The tympanist strikes a single note. The sound-pressure level of the direct sound of the note at the seat is measured to be 55 dB. The first reflection from the nearest sidewall arrives at the seat 105msec after the arrival of the direct sound.   1. How far does the reflection travel to reach the seat? 2. What is the SPL of the reflection at the seat, assuming perfect reflection at the wall? 3. How long will the reflection be delayed after arrival of the direct sound at the seat? | CO2 | 20 |
|  |  |  |  |  |
| 3. |  | Discuss about perception of loudness and perception of direction by human ear. Pictorially represent various parts of human ear and explain its function. | CO1 | 20 |
| (OR) | | | | |
| 4. | a. | Digital audio is recorded at sampling rate 44.1kHz and 16bit resolution. Calculate the disk space required to store a stereo track of digital audio for a period of 2 minutes. | CO4 | 8 |
| b. | Classify microphones according to its construction and explain its features in detail. | CO1 | 12 |
|  |  |  |  |  |
| 5. |  | For the below mentioned microphones list their application, construction type and preferred polar pattern:   1. Boom Mic 2. Parabolic Mic 3. Headworn Mic 4. Lavallier Mic 5. Handheld Mic 6. Conference Mic 7. Hydrophone | CO4,CO5 | 20 |
| (OR) | | | | |
| 6. |  | List down and discuss about the different types of Mono Miking techniques and Stereo Miking technique in detail. | CO2,CO3 | 20 |
|  |  |  |  |  |
| 7. | a. | Differentiate between Active low level Crossover and Passive high level crossover. | CO2,CO3 | 8 |
| b. | List down the specification of an Amplifier and Loudspeaker and discuss about matching a loudspeaker with the correct power amplifier. | CO4 | 12 |
| (OR) | | | | |
| 8. |  | Mention different types of mixing consoles. List down all the functions available on a single channel of an audio mixer and explain their features in brief. | CO2,CO3 | 20 |
|  | |  |  |  |
|  | | **Compulsory**: |  |  |
| 9. |  | List down any 5 signal processors (dynamic range and equalizers) and explain their functions in detail. | CO5,CO6 | 20 |