**MINOR-1 EXAMINATION**

M.Tech –**CSE ( 1st-SEMESTER):** SESSION **2022-23**

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| Course Code: **MCSC-103** | Duration: **60 Min.** |
| Course Name: **Advanced Computer Networks and Communication** | Maximum Marks: **20** |

***Instructions:***

1. *Attempt any* ***four*** *questions.*
2. *Clearly state assumptions wherever necessary.*

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| **Q. No.** | **Questions** | **MM** | **CO** | **BL** |
| **1** | Describe Components of Data Communication?Discuss pros and cons of duplex communication? | ***5*** | *CO1* | *L1* |
| **2** | Describe Communication Channels and types of communication channels? | ***5*** | *CO1* | *L2* |
| **3** | Describe the layers in OSI reference model?  Compare TCP/IP model with OSI?  Describe some important protocols of TCP/IP model? | ***5*** | *CO2* | *L2* |
| **4** | Define frequency, wavelength, bandwidth, and spectrum?  The frequency of red light is (*f=*) 4⨉1014 in air, determine its time-period and wavelength? | ***5*** | *CO2* | *L3* |
| **5** | Define bitrate and bitlength?  What is the required bitrate of high definition television (HDTV). *(Assume height=1080, aspect ratio=16:9, and frame rate of 30fps? Take and describe necessary assumptions.)* | ***5*** | *CO4* | *L3* |
| **6** | Describe physical topologies and its types?  A digital voice channel is made by digitizing a (fm=) 4kHz bandwidth analog signal assume suitable sampling rate and each sample has (L=) 256 quantization levels. What is the bitrate of this signal? | ***5*** | *CO4* | *L3* |