

SANT GADGE BABA AMRAVATI UNIVERSITY, AMRAVATI
HanumanVyayamPrasarak Mandal's
College of Engineering & Technology, Amravati
Course: Information Technology
BE Four year Semester (Information technology) Summer 2020 Exam
Subject: 4IT02 Communication Engineering
Assignment for ONLY BACKLOG STUDENTS

Instructions

- 1) Solve ANY TWO Questions**
- 2) Each Question Carries 10 marks**

Q I) Solve the following

- 1) What is modulation ? What is its need ? [2M]
- 2) Explain superhetrodyne receiver in detail using its block diagram. [2M]
- 3) What are characteristics of varactor diode? Explain its use for FM generation [1M]
- 4) Compare AM and FM. [2M]
- 5) State and explain sampling theorem in detail [1M]
- 6) Define power spectral density. [2M]

Q II) Solve the following

- 1) Calculate the percentage of power saving when carrier and one of the sidebands are suppressed in an A.M. wave modulated to a depth of 100% and 50%. [2M]
- 2) What is image frequency ? How it may be removed ? [2M]
- 3) What are "Pre-emphasis" and "De-emphasis" [1M]
- 4) Explain the block diagram of FM receiver [2M]
- 5) What is Quantization ? Explain linear and non-linear quantization [1M]
- 6) Explain difference between auto and cross correlation. [2M]

QIII) Solve the following

- 1) Draw and explain the operation of Balanced Modulator using diodes. [2M]
- 2) Explain :(1) Selectivity (2) Fidelity (3) Sensitivity [2M]
- 3) What is frequency modulation?. [1M]
- 4) Explain the working of "Foster-seeley Detector" for frequency demodulation [2M]
- 5) Draw and explain block diagram of TDM system [1M]
- 6) Define delta function. State various properties of delta function. [2M]

QIV) Solve the following

- 1) What is communication? Explain the communication system with its elements [2M]
- 2) What is need of AGC in receivers ? [2M]
- 3) What is Narrow band FM ? What are its limitations and merits over wide band FM ? [1M]
- 4) Explain the working of "Balance slope Detector" with its circuit arrangement [2M]
- 5) Explain PAM generation [1M]
- 6) State following properties : (i) Duality (ii) Frequency shifting [2M]