

SANT GADGE BABA AMRVATI UNIVERSITY, AMRAVATI
Summer Examination 2020
HVPM's College of Engineering and Technology, Amravati
Department of Electronics & Tele communication Engineering
Bachelor of Engineering Sem. :- V

Subject :- Communication Engineering-II(Old)

Code :-5XT4

Instructions:-

- 1) Solve any two questions**
 - 2) All question carries equal marks**
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Q1.

- a) For an AM wave with modulation index 1, show that its total power is equal to 1.5 times carrier power. **02 Credit Point**
- b) coupling circuit is 100. If the intermediate frequency is 455 KHz calculate (a) The image frequency and its rejection ratio at 1000 KHz and (b)the image frequency and its rejection ratio at 25 MHz. **02 Credit Point**
- c) Explain functioning of stereo FM transmitter with the help of its block diagram. **02 Credit Point**
- d) With the help of-block diagram explain the operation of stereo FM receiver. **01 Credit Point**
- e) State and prove sampling theorem. **01 Credit Point**
- f) Explain function of distributed SPC.

Q2.

- a) Explain generation of SSB-SC by phase shift method. **02 Credit Point**
- b) With the help of block diagram explain functioning of communication receiver. **02 Credit Point**
- c) What is frequency modulation? Derive mathematical expression showing spectrum of FM signal. **02 Credit Point**
- d) What is the function of slope detector in FM receiver? Explain balance slope detector. **02 Credit Point**
- e) Explain time division multiplexing. **01 Credit Point**
- f) Explain time division time switching. **01 Credit Point**

Q3.

- a) With the help of Block diagram explain the difference between high level and low-level AM transmitter. **02 Credit Point**
- b) Obtain expression for SNR of DSBSC modulation. **02 Credit Point**
- c) What is pre-emphasis and de-emphasis? explain in detail. **02 Credit Point**
- d) What is function of amplitude limiter in FM receiver? explain working of FM amplitude limiter. **02 Credit Point**
- e) Explain what is aperture effect considering flat top sampling and how this is corrected. **01 Credit Point**
- f) Explain time multiplex time switching. **01 Credit Point**

Q4.

- a) Explain generation of SSB-SC by third method. **02 Credit Point**
- b) What is AGC and why is it needed? explain delayed AGC circuit. **02 Credit Point**
- c) Explain FM modulation using varactor diode. **02 Credit Point**
- d) Draw block diagram of FM receiver and explain its operation in detail. **02 Credit Point**
- e) Explain Delta modulator transmitter and receiver operation in detail. **01 Credit Point**
- f) Explain touch tone dial scheme in detail. **01 Credit Point**