Enrollment No……

Bachelor of Engineering
Eighth Semester Main Examination, June-2021
Advanced Communication System [EC802]
Branch-EC

Time: 3:00 Hrs **Max Marks 70**

Note: i) Attempt any five questions out of eight.
ii) Answer should be precise & to be point only.
iii) Assume suitable data if necessary & state them clearly.
iv) All questions carry equal marks.

Q.1 a) Explain the principle of single carrier modulation with frequency-domain equalization.
b) Discuss the basic principle working of Direct Sequence Spread Spectrum.

Q.2 a) Describe the principle of OFDM and give implementation of transceivers.
b) Explain about implementation of transceivers.

Q.3 a) How spectrum sensing and spectrum sharing is done in cognitive radio? Explain in detail.
b) Discuss about spectrum sensing and Spectrum Management.

Q.4 a) Discuss the principle working of multiuser detection system.
b) Explain the generation and characteristics of PN sequence

Q.5 a) What is CDMA? Explain. How does it employ spread spectrum techniques during the multiple access of the signals.
b) Describe smart antenna system with the help of transmitter and receiver.

Q.6 a) Discuss the principle working of frequency hopping spread spectrum technique.
b) Discuss the principle working of smart antennas.

Q.7 a) What is spatial division multiple access? Explain.
b) What are the benefits of co-operative transmission?

Q.8 Write Short Notes on
a) Adaptive modulation
b) Time hoping impulse radio
c) Network Coding

Enrollment No……

Bachelor of Engineering
Eighth Semester Main Examination, June-2021
VLSI Design [EC803]
Branch-EC

Time: 3:00 Hrs **Max Marks 70**

Note: i) Attempt any five questions out of eight.
ii) All questions carry equal marks.
iii) Answer should be precise & to be point only.

iv) Assume suitable data if necessary & state them clearly.

Q.1 a) How you can explain the MOS fabrication using various steps? Explain any two of them.
b) Explain IC production process and what are the methods of testing in detail.

Q.2 a) Discuss the various design rules of CMOS. What is the significance of these rules in software system?
b) Explain Latch up triggering. Latch up prevention and Internal Latch up prevention techniques.

Q.3 a) Draw and explain the output characteristics curve for n channel MOSFET
b) How you can differentiate the designing parameters between PMOS and NMOS processing steps? Explain with suitable example.

Q.4 a) What do you mean by systolic arrays? Draw any circuit which explains the effective results of these types of arrays.
b) What is the Bit Serial Processing Elements? Explain its circuit or architecture with detail.

Q.5 a) Explain the high frequency diode model with suitable example.
b) Define device modeling. Discuss the DC models and its classification

Q.6 a) Explain the twin tub method of CMOS IC fabrication.
b) Discuss about the Structured Logic Forms. How is it different from Random Logic Forms?

Q.7 a) Describe BJT Noise model with suitable diagram
b) Discuss the principles of Qausi-static register cell.

Q.8 Write Short Notes on
a) Basic n-well CMOS Process
b) Passive component Models
c) Algotronix
d) Micro coded Controllers

Enrollment No……

Bachelor of Engineering
Eighth Semester Main Examination, June-2021
TV & Radar Engineering [EC804]
Branch-EC

Time: 3:00 Hrs **Max Marks 70**

Note: i) Attempt any five questions out of eight.
ii) All questions carry equal marks.
iii) Answer should be precise & to be point only.
iv) Assume suitable data if necessary & state them clearly.

Q.1 a) Define Kell factor and explain its significance
b) Discuss the working of Trinitron picture tube.

Q.2 a) With the help of block diagram explain TV transmitter
b) Explain the principle of plasma and LCD displays.

Q.3 a) Discuss the principle working of video and audio processor unit.
b) Discuss the performance of high performance computer controlled TV (HPCC TV).

Q.4 a) Explain the principle of Doppler effect. And also explain the working of

FM-CW radar.
b) With the help of block diagram explain the working of Radar and determine the Radar range equation.

Q.5 a) Discuss the principle working of MTI Radar processor
b) Explain the principle of PPI representation displays.

Q.6 a) Compare NTSC and PAL system.
b) With the help of block diagram explain colour television receiver

Q.7 a) Describe the main characteristics of CCIR System-B standard.
b) Explain the working of 3-D stereoscopic television techniques.

Q.8 Write Short Notes on
a) Synthetic aperture radar.
b) CCD image sensors
c) High definition television system (HDTV)
d) Bistatic radar.

Enrollment No……

Bachelor of Engineering
Eighth Semester Main Examination, June-2021
Advanced Data Network [EC8013]
Branch-EC

Time: 3:00 Hrs **Max Marks 70**

Note: i) Attempt any five questions out of eight.
ii) All questions carry equal marks.
iii) Answer should be precise & to be point only.
iv) Assume suitable data if necessary & state them clearly.

Q.1 a) Describe cellular system. What are the topologies used for cellular systems?
b) Discus the principle of GPRS and higher data rates.

Q.2 a) Explain the five major challenges for implementing. WLANs that existed from the beginning of this industry.
b) Explain the principle of short messaging services in GSM.

Q.3 a) Explain the architecture and reference model of HIPERLAN-2 in details.
b) List the technologies for wireless geolocation system.

Q.4 a) What is GPS system? Write and explain the principles of GPS position locationing.
b) Describe Bluetooth architecture and protocol. Also discuss its limitations.

Q.5 a) Discuss Optical Add/Drop Multiplexing OADM. What is reconfigurable OADM?
b) Explain the SONET frame structure and SONET rings with neat diagrams.

Q.6 a) For wireless network operation explain mobility management, radio resources and power management.
b) Explain wideband long-haul WDM networks and narrowband metro WDM networks with suitable diagram.

Q.7 a) Write briefly on the new interest from military and service providers.
b) What is Cellular Digital Packet Data (CDPD) network? Write advantages of CDPD.

Q.8 Write Short Notes on
a) Satellite signal acquisition
b) Fiber Bragg grating dispersion compensator
c) Geolocation standards for E-911 services
d) Radio and satellite navigation