Enrollment No……

Bachelor of Engineering
Eighth Semester Main Examination, Aug-Sep 2020
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) Write various properties of maximal-length-sequences.
(b) Describe time hoping impulse ratio.

Q.2 (a) Describe the architecture of the cognitive transceiver.
(b) Describe code division multiple access.

Q.3 (a) How time frequency selective channel is estimation is done in OFDM system?
(b) Discuss the issues in the spectrum management.

Q.4 (a) Describe multi carrier code division multiple access in detail.
(b) What is single carrier modulation with frequency domain equalization?

Q.5 (a) Describe smart antenna system with the help of transmitter and receiver.
(b) Describe MIMO in details.

Q.6 (a) Write Advantage and disadvantage of smart antenna with justification.
(b) Write short note on network coding and adaptive modulation.

Q.7 (a) What are fundamentals of relaying? Discuss relaying with multiple parallel relays.
(b) Discuss about routine and resource allocation in collaborative networks.

Q.8 Write short notes on -
a) Inter carrier interference
b) Spatial division multiple access
c) OFDM

Enrollment No……

Bachelor of Engineering
Eighth Semester Main Examination, Aug-Sep 2020
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) Explain the microelectronics field. Give the types of major process used in IC fabrication.
(b) Explain the operating principal of N channel MOSFET with help of suitable diagram.

Q.2 (a) Draw and explain the output characteristic curve for n channel MOSFET
(b) What is the role of parasitic capacitors in MOS transistors for n channel device? Explain with suitable diagram.

Q.3 (a) Explain the high frequency diode model with suitable example.
(b) Explain different steps involving in N well CMOS process.

Q.4 (a) Explain Hybrid Technology and Passive Components Models.
(b) What do you mean by micro coded controllers? Explain with suitable circuit diagram.

Q.5 (a) Explain the sub threshold operation when MOSFET operating in weak inversion.
(b) Explain the chart that explains the approach to device modeling.

Q.6 (a) Explain twin tub process in brief.
(b) Discuss serial access memories in brief.

Q.7 (a) Design the JK flip flop using CMOS technology.
(b) Design the R-S flip flop using CMOS technology.

Q.8. Write Short Notes on [3.5 each]
(i) Hybrid technology (ii) Passive components models
(iii) BJT noise model and (iv) Systolic Array

Enrollment No……

Bachelor of Engineering
Eighth Semester Main Examination, Aug-Sep 2020
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) Describe main characteristics of CCIR-B standard.
(b) Explain need for negative modulation in TV transmission

Q.2 (a) Define Kell factor and explain its significance.
(b) Sketch cross section view of Videocon camera tube and explain its working in detail.

Q.3 (a) Draw the block diagram of TV transmitter and explain the working of each block in brief.

(b) Compare NTSE and PAL system.

Q.4 (a) Explain how HD TV is different from conventional TV system.
(b) Draw the block diagram of digital TV receiver and explain working of each block in brief.

Q.5 (a) Describe working of cable television system in brief.
(b) Classify RADAR frequency bands.

Q.6 (a) Describe working principle and construction of biostatic RADAR.
(b) Describe working principle & application of synthetic aperture RADAR.

Q.7 (a) Describe working principle of CW-RADAR in brief.
(b) Describe principle of plasma display.

Q.8 Write Short Notes on
(i) Types of RADAR
(ii) Function of LCD display
(iii) 3D TV technology

Enrollment No……

Bachelor of Engineering
Eighth Semester Main Examination, Aug-Sep 2020
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.

Q.1 (a) Explain in detail the wireless system security and privacy.
(b) What are the methods for power management in cellular network? Explain any one of them.

Q.2 (a) Discuss Adhoc network with their merits and demerits.
(b) Explain briefly about wireless network topology.

Q.3 (a) Write short note on GPRS.
(b) Explain prevention of interference of Bluetooth and 802.11.

Q.4 (a) Explain the process of satellite navigation in details.
(b) Describe Bluetooth architecture and protocol. Also discuss its limitations.

Q.5 (a) Compare the performance of bus architecture and ring architecture.
(b) Discuss about MAC sub layer and MAC management sub layer.

Q.6 (a) Write short note on Bluetooth and OADM.
(b) Discuss the principle of optical packet switching and optical burst switching.

Q.7 (a) Describe Bluetooth architecture and protocol. Also discuss its limitations.

(b) Explain the architecture and services of IEEE 802.11.

Q.8 Write Short Notes on

i) SONET/SDH

ii) Wireless GEO location system architectures

iii) Wireless network topology