

QP Code : 15037

(3 Hours)

[Total Marks :100

- N.B. :** (1) Question No. 1 is compulsory.
 (2) Attempt any four questions out of remaining six questions.
 (3) Assume suitable data, wherever required with justification.

1. (a) Design 8086 microprocessor based system with following specification. 12
 - (i) 8086 working at 6MHz in minimum mode.
 - (ii) 16KB EPROM using 8KB chips.
 - (iii) 16 KB SRAM using 8 KB chips.
- (b) Explain data and program memory organization of PIC 18 micro controller. 8
2. (a) Discuss different data transfer modes of DMA controller 8257. 10
- (b) Write a function of following 8086 microprocessor pins. 10
 - (a) $\overline{\text{LOCK}}$
 - (b) $\overline{\text{QS}}_0 / \overline{\text{QS}}_1$
 - (c) $\overline{\text{BHE}}$
 - (d) TEST
 - (e) $\overline{\text{INTA}}$.
3. (a) Explain maximum mode of 8086 microprocessor. 10
- (b) Draw and explain interfacing of 8086 with 8255. 10
4. (a) Explain the addressing modes of PIC 18 controller with suitable example. 10
- (b) Draw and explain interfacing between 8086 with 8087 co-processor. 10
5. (a) Write a program and draw flow chart for block of data transfer [from 10000 to 20000.] 10
- (b) Explain following instructions of 8086 microprocessor. 10
 - (1) MOV CL, 25H
 - (2) SUB CL, [BX+DX]
 - (3) ADD AL, [BX + SI]
 - (4) SFC
 - (5) MOVS.

6. (a) With the help of neat diagram Interface 7 segment display with PIC 18. **10**
- (b) Write a program to load two bytes in data register REG0 and REG1. Add the bylest and store in register REG2. **8**
- (c) Explain status register of PIC 18 micro controller. **2**
7. Write short note on :— **20**
- (a) PIC 18 micro controller ports
- (b) Bus controller 8288
- (c) Block diagram of DMA 8257
- (d) Memory segmentation of 8286.
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25/11/2014.

TE/EXTCL VI

AWP

QP Code : 15074

(3 Hours)

[Total Marks : 100

- N. B. :** (1) Question No. 1 is **compulsory**.
(2) Answer any **four** questions from the remaining **six** questions.
(3) Assume suitable data if required.

1. (a) Deduce the wave equations for a plane wave in free space with the help of Maxwell's equations. 5
(b) Explain principle of pattern multiplication with a suitable example. 5
(c) Explain Radiation resistance, antenna beam width, directive gain, effective area, antenna equivalent circuit. 5
(d) Explain sky wave propagation. 5
2. (a) Derive the expression for radiation resistance of an infinitesimal dipole, explain its significance. 10
(b) State and derive FRISS transmission formula. 10
3. (a) Explain and derive equations for total electric field, directivity, half power beamwidth in case of two isotropic point sources of same amplitude but opposite phase. 10
(b) What is folded dipole antenna? Explain its operation, equation, properties and applications. 10
4. (a) Explain with suitable diagram the working of Log-periodic antenna. Write its practical applications. 10
(b) Explain working of parabolic reflector antenna and its different feed mechanisms. 10
5. (a) Describe how the radiation pattern of a given antenna can be measured experimentally. 10
(b) Describe space wave propagation and derive the relationship for minimum distance between transmitting and receiving antenna. Earth is assumed to be flat. 10
6. (a) Design a broadside Dolph-Tschebyscheff array of 6 elements with spacing 'd' between the elements and with a major to minor lobe ratio of 26 db. Find its excitation coefficients and array factor. 10
(b) Explain the principle modes of operation of helical antenna and draw its radiation pattern. 10
7. Write short notes on (any four) :- 20
(a) Tropospheric scatter propagation.
(b) Retarded potential and its applications.
(c) Sleeve dipole.

QP Code : 15165

(3 Hours)

[Total Marks : 100

- N.B. :** (1) Question No. 1 is **compulsory**.
(2) Answer any **four** out of remaining **six** questions.
(3) Draw the **neat diagrams** wherever **necessary**.

1. Answer the followin :— 20
 - (a) In T.V. why AM is preferred over FM for picture Modulation.
 - (b) In color T.V. Transmission What is the purpose of color sub carrier ?
 - (c) What is LNBC ? Explain with the help of Block Diagram.
 - (d) Explain in brief RTCP streaming video protocol.

2. (a) What is the Drawback of Sequential Scanning ? How it is overcome in Interlace Scanning ? Explain Interlace Scanning in Detail. 20
(b) Explain the color T.V. Camera System. What is the purpose of Dichromic lense in it ?

3. (a) Explain the working of Vidicon Camera tube. What do you mean by dark current ? 20
(b) What do you mean by color burst Signal ? Explain how it is generated and transmitted.

4. (a) Explain the working of T.V. pattern generator used for testing of T.V. 20
(b) With the help of Block Diagram explain B/W T.V. Receiver.

5. (a) Compare NTSC, PAL and SECAM TV Standards. 20
(b) Draw and explain color killer circuit used in color T.V. Receiver.

6. (a) With the help of Block Diagram explain in brief working of Satellite T.V. Receiver. 20
(b) Draw and explain PIL Picture Tube and Compare it's performance with Delta Gun.

7. Write short notes on (any two) :— 20
 - (a) Deguassing used in Picture Tube.
 - (b) EIA pattern.
 - (c) MATV and CATV.

TE (EXTC) SEM VI

Industrial Economics & Telecom
Regulation

QP Code : 15207

11/12/2014

(2 Hours)

[Total Marks : 50

N.B. : (1) Question No.1 is compulsory.

(2) Attempt any **four** questions out of remaining.

1. (a) Explain the factors that are affecting Price Elasticity of Demand. 5
(b) What are the functions of Central Bank ? 5
2. (a) Explain oligopoly and its features. 5
(b) Explain Basic elements of Scientific management. 5
3. (a) Define Decision making and steps associated in decision making process. 5
(b) Define organization and its types. Also explain line organization structure in detail. 5
4. (a) Define inflation and its different levels (types). 5
(b) Explain Maslow's Need Hierarchy Theory with a neat sketch. 5
5. (a) Explain in detail the shortcomings observed in Indian banking system and steps to improve it. 5
(b) Explain TRAI regulation. 5
6. (a) Explain in detail National Telecom Policy 1994. 5
(b) Compare Management, Administration and Organization. 5
7. Short note (any two) :- 10
 - (a) Economic and its importance
 - (b) Theory of International Trade
 - (c) Explain various Barriers in Communication Process.
