ADIKAVI NANNAYA UNIVERSITY::RAJAMAHENDRAVARAM

III B.TECH – I SEMESTER

ELECTRONICS AND COMMUNICATION ENGINEERING

BTECE501: LINEAR INTEGRATED CIRCUITS AND APPLICATIONS

MODEL QUESTION PAPER

Time: 3hrs. **Max. Marks: 75**

SECTION-A (4 X 15 = 60 M)

Answer ALL Questions

1. **a)** Explain the application of op-amp as (1) integrator (2) differentiator. **(7M)**

b) Write short notes on classification of Integrated circuits. **(8M)**

OR

c) Discuss about multivibrator with an example. **(8M)**

d) Write brief notes on op-amp parameters. **(7M)**

2. **a)** Explain IC1496 balanced modulator with a neat sketch. **(15M)**

OR

b) Briefly explain about saw-tooth square wave generator. **(15M)**

3. **a)** Explain about mono stable and astable operations of 555 timers. **(8M)**

b) Write about phase locked loop. **(7M)**

OR

c) What are the applications of VCO. **(8M)**

d) Explain Schmitt trigger. **(7M)**

4. **a)** Explain about R-2R ladder DAC. **(15M)**

OR

b) What are the basic DAC techniques. **(15M)**

Section-B (5 X 3 =15 Marks)

5. Answer any FIVE of the following:

a).Explain about 741 op- amp with pin diagram.

b).Explain about instrumentation amplifier**.**

c). What are the first and second order of LPF.

d). Define band pass and band reject filters**.**

e). Draw the pin diagram of 555 timer and explain.

f). What are the applications of PLL.

g). What are the different types of ADC.

h). Explain about weighted resistors of DAC.

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ADIKAVI NANNAYA UNIVERSITY::RAJAMAHENDRAVARAM
III B.TECH – I SEMESTER
ELECTRONICS AND COMMUNICATION ENGINEERING
BTECE502: DIGITAL INTEGRATED CIRCUITS AND APPLICATIONS
MODEL QUESTION PAPER

Time: 3hrs. **Max. Marks: 75**

SECTION-A (4 X 15 = 60 M)
Answer ALL Questions

1. a) Discuss about CMOS steady state and dynamic electrical behaviour. **(7M)**
b) Explain about TTL NAND gate**.** **(8M)**

OR

c) Explain CMOS logic families. **(15M)**

2. **a)** what are the elements of VHDL and explain. **(15M)**

OR

b) Briefly explain behaviour modelling process. **(15M)**

3. a) Design a 16-bit ALU using 74x381 and explain its operation. **(8M)**
b) Draw and explain the Dual priority encoder in detail. **(7M)**

OR

c) Draw the block diagram of Binary Adder and Subtractor and explain its operation in detail. **(8M)**
d) Explain ripple adder. **(7M)**

4. a) Explain the following terms in detail. (a) RAM (b) SRAM (c) DRAM. **(15M)**

Section-B (5 X 3 =15 Marks)

5. Answer any FIVE of the following:

a) Explain about emitter couple logic.

b) Explain about CMOS/TTL interfacing.

c) What are the signal assignment statement.

d) Define VHDL.

e) Explain the Dual priority encoder.

f).What are logical operations in C.

g) Explain demultiplexer.

h) Write about universal shift registers.

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ADIKAVI NANNAYA UNIVERSITY:: RAJAMAHENDRAVARAM
III B. Tech (ECE) I Semester
DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING
BTECE503: COMPUTER ORGANIZATION
MODEL QUESTION PAPER

Time: 3hrs. **Max. Marks: 75**

SECTION-A (4 x 15=60)
Answer ALL Questions

1 **(a)** Explain different addressing modes with examples. **[15M]**

Or

(b) Explain Design of Accumulator logic. **[15M]**

2 **(a)** Write notes on asynchronous data transfer. **[15M]**

Or

(b) Explain direct memory access? **[15M]**

3 **(a)** Explain in brief main memory concepts? **[08M]**
(b) Expalin in brief cache memory. **[07M]**

Or

(c) Explain the concepts of virtual memory? **[15M]**

4 **(a)** Explain 8085 Microprocessor Architecture? **[15M]**

Or

(b) Explain Intel 8085 Microprocessor Instructions? **[15M]**

SECTION-B (5 x 3=15M)
Answer any FIVE Questions

5 **Write a short notes on**

a) Stack Organization?
b) Instruction cycle?
c) I/O vs memory bus?
d) Priority interrupts?
e) Associative memory?
f) Memory protection?
g) Write short notes on 8085 pin configuration?
h) Intel 8085 instructions of Arithmetic and logic group?

ADIKAVI NANNAYA UNIVERSITY, RAJAMAHENDRAVARAM

III B. Tech (ECE) I Semester

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

BTECE504: MANAGEMENT SCIENCE

MODEL QUESTION PAPER

Time: 3 hours Max. Marks: 75

SECTION-A (4 X 15 = 60 M)

Answer ALL Questions 4 X 15 = 60

1. a) What is management? Explain the Taylor's scientific management.

OR

b) Explain the Maslow's theory of human needs.

2. a) What is meaning of HRM? Explain the functions of HR.

OR

b) Compare Vision, Mission, Strategies & Goals in its importance; also write model statements suitable for a Manufacturer of Electronics Components?

3. a) What is JIT Approach, how can you use JIT concepts in manufacture of electronic goods?

OR

b) Compare features, merits & demerits of Product & Process Type of Layouts?

4. a) Compare and contrast between CPM and PERT.

OR

b) What are the marketing strategies in each stage of PLC?

Section B (5×3=15M)

Answer any Five Questions

5. a) Explain about Planning.

b) What are the leadership styles?

c) Discuss merit rating.

d) Explain about welfare administration

e) What is balanced score card?

f) Explain about BPR

g) Write about PERT

h) What is marketing Mix?

ADIKAVI NANNAYA UNIVERSITY::RAJAMAHENDRAVARAM
III B.TECH – I SEMESTER
ELECTRONICS AND COMMUNICATION ENGINEERING
BTECE505: DIGITAL COMMUNICATIONS
MODEL QUESTION PAPER

Time: 3hrs. **Max. Marks: 75**

SECTION-A (4 X 15 = 60 M)
Answer ALL Questions

1. **a)** Explain the elements of Digital communication system. **(7M)**
b) Explain sampling , quantization and coding**.** **(8M)**
OR
c) Write the comparison of PCM and DM systems. **(15M)**

2. **a)** What are the similarity of BFSK & BPSK. **(15M)**
OR
b) Explain about ASK, FSK , PSK, DPSK, DEPSK. **(7M)**
c) Explain the calculation of error probability of ASK, BPSK. **(8M)**

3. **a)** Explain entropy and its properties. **(8M)**
b) Explain mutual information and its properties**.** **(7M)**
OR
c) Explain Shanon –Fano coding with example. **(8M)**
d) Explain Huffman coding with example. **(7M)**

4. **a)** Explain Error detection and Error correction capability of Linear block codes. **(15M)**

Section-B (5 X 3 =15 Marks)

5. Answer any FIVE of the following:

a) Explain about quantization .

b) Explain delta modulation and its draw back

c) Explain about QPSK.

d) Define optimum filter.

e) What is average information.

f) What are the advantages of Shanon – Fano coding.

g) What are BCH codes.

h) Explain about tree and trellis diagram decoding.

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ADIKAVI NANNAYA UNIVERSITY::RAJAMAHENDRAVARAM

III B.TECH – I SEMESTER

ELECTRONICS AND COMMUNICATION ENGINEERING

BTECE506: ANTENNAS AND WAVE PROPAGATION

MODEL QUESTION PAPER

Time: 3hrs. **Max. Marks: 75**

SECTION-A (4 X 15 = 60 M)

Answer ALL Questions

1) **a)** Explain the radiation mechanism in short dipole. **[8M]**

b) Explain about field regions of an antenna. **[7M]**

(OR)

c) Explain about radiation intensity of an antenna. **[7M]**

d) Discuss about linear, circular and elliptical polarizations. **[8M]**

2. **a)** Define effective area and explain its significance. **[8M]**

b) State reciprocity theorem and explain its use in antennas. **[7M]**

(OR)

c) Explain about Radiation from a half-wave dipole. **[8M]**

d) Explain current distribution on linear dipoles. **[7M]**

3. a) Explain about Broad side array. **[8M]**

b) Explain about Folded dipoles and write its characteristics. **[7M]**

(OR)

c) Explain about Radiation from a Quarter-wave monopole. **[8M]**

d) Derive the expression for field strength of a uniform linear array. **[7M]**

4. a) Derive the expression for field strength due to space wave. **[8M]**

b) Write the salient features of ground wave propagation. **[7M]**

(OR)

c) Explain the mechanism of ionospheric propagation. **[8M]**

d) What is meant by Duct propagation? Explain. **[7M]**

Section-B (5 X 3 =15 Marks)

5. Answer any FIVE of the following:

a) Define polarization

b) Write short notes on characteristic impedance of patch antenna.

c) Define Gain and Resolution of an antenna

d) Define Skip distance.

e) What is meant by beam efficiency?

f) What is meant by Ground wave? Explain

g) Write the applications of Horn antenna.

h).What is meant by Duct propagation.