ACHARYA NAGARJUNA UNIVERSITY
MODEL PAPER ( Maths Combination )
Elective VII (A): (Electronics)
Semester –VI
Elective Paper –VII-(A) : Analog and Digital Electronics

Time : 3.00 Hours
Max: Marks : 75

SECTION – A ( 5 x5 = 25 )
Answer any FIVE of the following
1. Draw the symbols of LED and write their applications
2. Define CMRR and slew rate
3. What are the Characteristics of an ideal op-amp (or) Problem
4. Explain op-amp acts as integrator
5. Explain op-amp as voltage follower
6. Explain Pin Diagram of IC 555
7. Construct decoder and Explain working of decoder
8. Explain working of D- Flip flop

SECTION – B ( 5 X 10 = 50 )
Answer ALL questions
9. a) Explain construction and working of Enhancement of MOSFET and draw its
   drain characteristics (OR)
   b) Explain the operation of LED and draw its characteristics and state its applications.
10. a) Explain block diagram of op-amp and differentiate ideal and practical
    characteristics of Op-amp (OR)
    b) Draw the basic circuit diagram of differential amplifier and explain.
11. a) Explain working of Differentiator and summing amplifier with the
    help of op-amp (OR)
    b) Draw the circuit diagram of inverting and non inverting amplifier and explain
    their operations.
12. a) Design and explain any one multiplexer (OR)
    b) Explain working of astable multivibrator with the help of op-amp
13. a) Draw the circuit diagram of RS Flip-flop and explain working with truth table.
    (OR)
    b) Design BCD to seven segment display and gray to BCD

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<tr>
<th>UNIT</th>
<th>Essay Questions 10 marks</th>
<th>Short questions 5 marks</th>
<th>Marks allotted</th>
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<td>I</td>
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blue print given above. Two essay questions and one short question is
compulsory in each unit.

Dr.Y.Gowri Sankar
Chairman, BOS, Physics
ACHARYA NAGARJUNA UNIVERSITY
MODEL PAPER ( Maths Combination )
Cluster Paper –VIII-(A1)
Semester –VI
Introduction to Microprocessor and Microcontrollers

Time : 3.00 Hours
Max: Marks : 75

SECTION – A ( 5 x5 = 25 )
Answer any FIVE of the following
1. Explain applications of microcontrollers
2. Explain working of general purpose computer system
3. Explain any three Logical instructions of 8085 microprocessor
4. Write an assembly language programming to add two 8- bit numbers
5. Write an assembly language program for factorial of given 8- bit number
6. Explain pin diagram of 8051 Micro Controller
7. Explain structure of embedded system programming
8. Explain trends in embedded industry

Answer ALL questions
9. a) Draw and explain architecture of embedded system (OR)
b) Explain elemental description of embedded processor and microcontrollers
10. a) Draw the pin diagram of 8085 microprocessor and explain each pin function. (OR)
b) Explain classifications of instructions in 8085 microprocessor
11. a) Write the block diagram of 8051 microcontroller and explain. (OR)
b) Explain Jump , Loop and Call instructions
12 a) Explain any five Arithmetic instructions with examples (OR)
b) Explain addressing modes used in 8051 programming
13. a) Explain the process of embedded product development life cycle in detail (OR)
b) Explain files compiling, downloading and debugging

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MODEL PAPER (Maths Combination)

Cluster Paper – VIII-(A2)
Semester – VI
Computational Methods and Programming

Time: 3.00 Hours
Max: Marks: 75

SECTION – A (5 x 5 = 25)

Answer any FIVE of the following
1. Explain Data types in C language
2. Explain character set used in C language
3. Write a programme to display the multiplication table
4. Explain any 5 mathematical functions in C-language
5. Explain addition of two arrays in C language
6. Write algorithm for Bisection Method
7. Write an algorithm for Trapezoidal rule
8. Explain concept of Linear interpolation

SECTION – B (5 X 10 = 50)

Answer any FIVE questions
9. a) Explain any five types of operators in C language with examples (OR)
   b) Explain constants and variables used in C language
10. a) Explain input and Output (I/O) statements in C language (OR)
    b) Explain conditional control statements (IF, IF-ELSE, ELSE-IF) with examples
11. a) Explain various types of arrays with example. How can you initialize it? (OR)
    b) Write a C programme for multiplication of two matrices
12. a) Explain about Newton –Rhapson method algorithm with example (OR)
    b) Explain about Gauss Seidel iterative method algorithm with example
13. a) Explain Simpson’s 1/3 rule algorithm with an example (OR)
    b) Explain algorithm for evaluation of First order Derivatives using Taylor’s series

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ACHERYA NAGARJUNA UNIVERSITY
MODEL PAPER (Maths Combination)
Cluster Paper –VIII-(A3)
Semester –VI
Electronic Instrumentation

Time : 3.00 Hours Max: Marks : 75

SECTION – A ( 5 x5 = 25 )
Answer any FIVE of the following
1. Explain accuracy and precision in instruments measurement
2. Explain principle for measurement of dc voltage using multimeter
3. Explain principle of voltage measurement
4. Explain the specification of an electronic voltmeter and give its significance
5. How do you measure the ac frequency and time period using CRO
6. Draw the block diagram of digital multimeter
7. Explain the characteristics of digital meter
8. Explain block diagram of signal generator

SECTION – B ( 5 X 10 = 50 )
Answer any FIVE questions
9. a) Explain specifications of multimeter and significance (OR)
   b) Explain measurement of ac and dc voltages and currents using multimeter
10. a) Explain the advantages of electric voltmeter over conventional multimeter for measurement of input impedance and sensitivity (OR)
    b) Explain specifications of electronic voltmeter and significance
11. a) Draw the block diagram of CRO and explain each block (OR)
    b) Draw and explain about cathode ray tube (CRT)
12. a) Draw and explain the block diagram of universal counter (OR)
    b) Explain explain working principle of digital voltmeter
13. a) Draw block diagram and explain pulse generator (OR)
    b) Explain block diagram and working of LCR bridge

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