

ANDHRA UNIVERSITY



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All Official letters,
packages etc, should be
addressed to the Registrar
by designation and not by
name.

No. L I (2)/U.G. Courses/MQP/2021

Visakhapatnam,
Dt: 25-10-2021

From: **THE REGISTRAR**

To

The Controller of Examinations,
Andhra University,
Visakhapatnam.

Sir,

Sub: Approval of Model Question Papers – Reg.


Ref: Email's dt 20-09-2021, 08-10-2021 along with Model Question
Papers.

With reference to the above, I am by direction to inform you that the Choice Based Credit System, U.G. Courses (w.e.f. 2020-2021) Model Question Papers of have been approved as detailed below:

S.No.	Subject	Name & Designation	Name of the College	Model question papers	Name of the Paper
1.	B.Sc. Electronics	Dr. Praveen Choppala, Chairman, BOS (Electronics U.G. courses), A.U.	Welfare Institute of Science Technology and Management, Visakhapatnam.	Semester-II (MQP)	Digital Electronics
2.	Mathematics	Dr. Ch. Srinivasa Rao, Chairman, Board of Studies in Mathematics	Mrs. A.V.N. College, Visakhapatnam	Semester-II (MQP)	Solid Geometry
3.	Statistics	P. Gandhi, Chairman, Board of Studies in Statistics.	Mrs. A.V.N. College, Visakhapatnam.	Semester-II (MQP)	Probability Theory and Distribution
4.	Zoology	Mrs. I.V.V. Satyavathi, Chairperson, Board of Studies in Zoology	Govt. Degree College, V. Madugula, Visakhapatnam	Semester-II (MQP)	Animal diversity- Biology of Chordates

(PTO)

10. a) Simplify the Boolean expression $Y(A, B, C) = \sum m(0, 2, 4, 5, 6, 7, 9, 11, 14)$ using k-map.
- (or)
10. b) Design SR and T flip-flop using JK flip-flop.
- (or)
11. a) Draw the logic circuits for the realization of AND, OR and NOT operations using NAND gates only using NOR gates only.
- (or)
11. b) Define multiplexer? Design full adder using 4:1 MUX.
12. a) With the help of a neat diagram, explain the working of a two-input TTL NAND gate.
- (or)
12. b) Explain 4-bit ring counter with circuit diagram and waveforms.
13. a) Define RAM? Explain different types of RAM with neat sketch.
- (or)
13. b) Explain the working of diode ROM with neat sketch.


Head Dept of ECE
WISTM Engg. College
Pinagadi, VSP

ANDHRA UNIVERSITY
FIRST YEAR B.Sc., FIRST SEMESTER
CBSC SEMESTER SYSTEM WITH EFFECT FROM 2020-2021
Subject: ELECTRONICS
Paper: CIRCUIT THEORY AND ELECTRONIC DEVICES

Time: Three Hours


Maximum Marks: 75

Section A, Answer ANY FIVE questions, 5 × 5 = 25 Marks

1. Define and obtain expression for average value, effective (R.M.S) values.
2. What is nodal analysis? Explain star to delta conversion with an example.
3. State and prove the Reciprocity theorem.
4. Draw the frequency response of RL circuit.
5. Draw the input and output characteristics of CE configuration.
6. what are the advantages of FET over BJT?
7. Define rectifier? What is the efficiency (η) of a half wave and full wave rectifier?
8. Explain Light Emitting Diode with circuit diagram.

Section B, Answer ALL questions (Internal Choice), 5 × 10 = 50 Marks


9. (a) Define voltage and current? Explain sinusoidal voltage and current.
(or)
9. (b) Give the differences between A.C and D.C? Draw the Phase relation of R, L and C
10. (a) State and prove Norton's Theorem.
(or)
10. (b) State and prove Milliman's Theorem.
11. (a) Show that RC high pass circuit is differentiating circuit and low pass circuit is an integrator circuit.
(or)
11. (b) Derive the Q-factor for series and parallel resonance circuits.
12. (a) Explain the construction and working of UJT and draw its characteristics.
(or)


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12. (b) Explain the construction and working of FET and draw its characteristics.
13. (a) with the help of a neat diagram explain the working of full wave rectifier. Derive the expression for efficiency and ripple factor.

(or)

13. (b) Define filter? Explain the L-section and π - section filter with circuit diagram.


Head Dept of :
NISTM Engrg. College
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ANDHRA UNIVERSITY
2nd YEAR B.Sc., IV SEMESTER
CBSC SEMESTER SYSTEM WITH EFFECT FROM 2020-2021

Subject: ELECTRONICS

Paper: MICROPROCESSOR SYSTEMS

Time: Three Hours

Maximum Marks: 75

Section A,

Answer ANY FIVE questions,

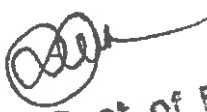
5 × 5 = 25 Marks

1. List any five features of 8085 microprocessor.
2. Give two examples of branch instructions in 8085.
3. How many memory locations can be addressed by a microprocessor with 14 address lines?
4. What is stack? List instructions related to stack operations.
5. What is BCD system? Where is it used?
6. Discuss any two arithmetic operations of 8085 with example.
7. Define fetch cycle and execution cycle.
8. What is ARM pipeline.

Section B, Answer ALL questions (Internal Choice),

5 × 10 = 50 Marks

9. (a) Explain opcode fetch Machine cycle of microprocessor 8085 with the help of timing diagram.
(or)
9. (b) Define register addressing mode and immediate addressing mode in 8085 with suitable examples.
10. (a) Write an assembly language program of 8085 to find the largest and smallest number in an array.
(or)
10. (b) Write an assembly language program of 8085 to perform addition and multiplication of two numbers.
11. (a) Explain any five logical instructions of 8085.
(or)
11. (b) Explain Machine Control instructions of 8085 in details.


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(or)

12. (b) A 107.6MHz carrier signal is frequency modulated by a 7KHz sine wave. The resultant FM signal has a frequency deviation of 50KHz. Determine the following

- i. Carrier swing of FM signal
- ii. The modulation index of FM wave.
- iii. Highest and lowest frequencies attained by the modulated signal

13. (a) Draw the block diagram of superheterodyne receiver and the function of each block.

(or)

13. (b) Define electromagnetic spectrum? Explain electromagnetic spectrum in details and its applications.



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ANDHRA UNIVERSITY
2nd YEAR B.Sc., IV SEMESTER
CBSC SEMESTER SYSTEM WITH EFFECT FROM 2020-2021
Subject: ELECTRONICS

Paper: MICROPROCESSOR SYSTEMS

Time: Three Hours

Maximum Marks: 75

Section A,

Answer ANY FIVE questions,


5 × 5 = 25 Marks

1. List any five features of 8085 microprocessor.
2. Give two examples of branch instructions in 8085.
3. How many memory locations can be addressed by a microprocessor with 14 address lines?
4. What is stack? List instructions related to stack operations.
5. What is BCD system? Where is it used?
6. Discuss any two arithmetic operations of 8085 with example.
7. Define fetch cycle and execution cycle.
8. What is ARM pipeline.

Section B, Answer ALL questions (Internal Choice),

5 × 10 = 50 Marks

9. (a) Explain opcode fetch Machine cycle of microprocessor 8085 with the help of timing diagram.
(or)
9. (b) Define register addressing mode and immediate addressing mode in 8085 with suitable examples.
10. (a) Write an assembly language program of 8085 to find the largest and smallest number in an array.
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12. (a) What is DMA? Explain the DMA operation with neat block diagram.


(or)

12. (b) Draw the timing diagram for the memory write cycle operation in the minimum mode of 8086 processor.

13. (a) Differentiate between RISC and CISC Processor.

(or)

13. (b) Explain concept of pipeline and interrupts in ARM processors.


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ANDHRA UNIVERSITY
2nd YEAR B.Sc., IV SEMESTER
CBSC SEMESTER SYSTEM WITH EFFECT FROM 2020-2021

Subject: ELECTRONICS

Paper: MICRO CONTROLLER AND INTERFACING

Time: Three Hours

Maximum Marks: 75

Section A,

Answer ANY FIVE questions,

5 × 5 = 25 Marks


1. Write the instruction format of 8051.
2. List the any four features of microcontrollers.
3. Define fetch cycle and instruction cycle.
4. Explain the following instructions:
(a) MOV A, R3 (b) ADD A, B
5. What is the function of the stack pointer and program counter?
6. What is debugging?
7. Explain the mode (0 and 1) operation of the timer.
8. List any three instruction command codes for programming an LCD module.

Section B,

Answer ALL questions (Internal Choice),

5 × 10 = 50 Marks

9. (a) Compare the Microprocessor and Microcontroller.
(or)
9. (b) Draw the functional block diagram of 8051 microcontroller and explain about each block.
10. (a) Define assembler directives. With example explain all the assembler directives supported by 8051 microcontroller
10. (b) Explain different modes of Timer for 8051 microcontroller.
11. (a) Explain about any five data transfer instructions with examples.
(or)
11. (b) Explain the addressing modes of 8051 with examples.
12. (a) Write an assembly language program to find the sum of 10 bytes in internal data memory locations beginning at 40H. Store the 16-bit sum in locations 50H and 51H (MSB).


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(or)

12. (b) Write an assembly language program to find the largest/smallest element in each of $n = 5$ bytes at location 30h. Store the largest/smallest element at a location 38h.

13. (a) Draw and Explain the Interfacing of a seven-segment display with 8051.

(or)

13. (b) Draw and explain the interfacing of a driver circuit required to run a Stepper Motor using 8051 Microcontroller.


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Vellore, India