

S.V.K.P & Dr.K.S.RAJU ARTS & SCIENCE COLLEGE(AUTONOMOUS),PENUGONDA

S.V.K.P & Dr.K.S.RAJU ARTS & SCIENCE COLLEGE(AUTONOMOUS),PENUGONDA

Recognized by UGC as “College With Potential for Excellence”

Accredited by NAAC with “A” Grade

**(Affiliated to ADIKAVI NANNAYA UNIVERSITY–Recognised
by Govt. Of Andhra Pradesh)**

FIRST SEMESTER END EXAMINATIONS

I B.Sc. –ELECTRONICS – BASIC ELECTRONICS CIRCUITRY

w.e.f 2019-20

Admitted Batch

MODEL PAPER

ELECTRONICS	CODE: 19ELE1	2019-20	B.Sc.
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Time : 3hours

Max.Marks:75.

Answer any five questions from Section A & Section B choosing atleast two from each section. Each question carries 10 marks. 5x10=50 marks

Part – 1

Section-A

1. Define the terms peak, RMS and average values of a sinusoidal voltage, Derive the Expressions for them.
2. Derive Relation between voltage and current in a capacitor and draw the phasor and vector diagram.
3. State and explain Kirchhoff's Voltage laws. Discuss the method of “loop current” method for arriving at a solution of a network with a single source of emf.
4. State and explain Star to Delta conversion.
5. State and prove the Superposition Theorem.

Section-B

6. State and prove Norton's Theorem.
7. Describe the transient response of RC circuit using DC source. Give suitable diagram.
8. Explain the frequency response of CR and LR circuit for sinusoidal wave forms.
9. Derive the expression frequency for LCR parallel resonant circuit and its frequency response.
10. Obtain relation between Q-factor and Band width and resonant frequency in LCR Series Resonant Circuit.

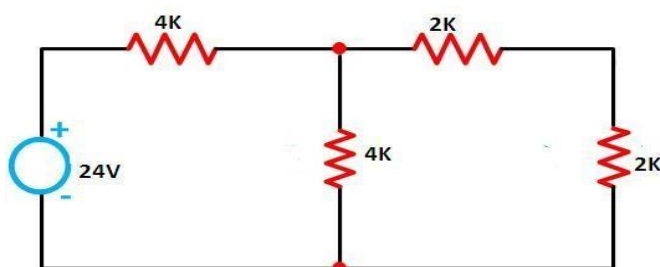
Part – 2

SECTION- C

Answer any five questions.
marks

5x5=25

11. Derive expression for resultant capacitance when the capacitors are connected in parallel .
12. What are the differences between AC& DC.
13. Explain the delta to star conversion with an example?
14. Explain the working of L-R circuit as “Low –Pass Filter”.
15. Explain the working of differentiator using L-R circuit.
16. What are the differences between series and parallel resonance circuits.
17. Explain the working of integrator using C-R circuit.
18. Draw the Norton’s equivalent circuit of the circuit shown.



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SECOND SEMESTER END EXAMINATIONS
I B.Sc. –ELECTRONICS – Electronic Devices and Circuits
w.e.f 2019-20
Admitted Batch
MODEL PAPER

ELECTRONICS	CODE: 19ELE2	2019-20	B.Sc.
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Answer any five questions from Section A & Section B choosing at least two from each section. Each question carries 10 marks.

5x10=50

marks

Part – I

Section-A

1. Explain the working of a tunnel diode. Discuss its V-I characteristics.
2. Describe the construction and working of a Zener diode. Draw and explain its V-I characteristics with circuit.
3. Explain Construction and working of NPN and PNP transistor .
4. Draw and explain the input and output characteristics of a transistor in CE configuration.
5. Discuss the construction and Working characteristics of UJT.

Section- B

6. Explain Construction and Working of N- Channel enhancement MOSFET. Draw its drain and transfer characteristics.
7. Explain the principle, construction and characteristics of photo transistor. Write its applications.
8. Explain the working of Bridge rectifier and calculate its ripple factor & efficiency.
9. Explain the working of full- wave rectifier and calculate the efficiency and Ripple factor.
10. Explain the working of SMPS with neat block diagram.

Part – II

Section - C

Answer any five questions.

5x5=25 marks

11. Explain the working of varactor diode.
12. Explain the working of P-N junction diode in forward bias.
13. How transistor works as a switch?
14. How UJT can be used as relaxation oscillator?
15. Explain the drain and transfer characteristics of FET.
16. Explain construction and working of LED and mention its applications.
17. Explain Fixed bias method of transistor biasing?
18. Explain the working of L-Section filter.

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THIRD SEMESTER END EXAMINATIONS

III B.Sc. –ELECTRONICS – DIGITAL ELECTRONICS

w.e.f 2019-20 Admitted Batch

MODEL PAPER

ELECTRONICS	CODE: 19ELE3	2019-20	B.Sc.
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Time : 3hours

Max.Marks:75.

Answer any five questions from Section A & Section B choosing atleast two from each section. Each question carries 10 marks.

5x10=50 marks

Part – 1

Section-A

1. Explain decimal and binary number system and explain how to convert one form to another from by using suitable example.
2. Explain 2's complement method. And explain suitable example.
3. write a short note on logic gates. And explain each gate with truth table.
4. Draw the four variable k-maps. explain with about suitable example.
5. Explain multiplexer (2:1,4:1).

Section-B

6. Explain TTL logical family. And explain it.
7. Draw the JK-master slave flip flop and explain its truth table .
8. Explain decade counter and draw the clock diagram.
9. write a short note on PAL.
10. Discuss about write a short note on PLA.

Part – 2

SECTION- C

Answer any five questions.

5x5=25 marks

11. Convert $(67.231)_8$ into decimal number.
12. Explain universal logic gates.
13. Write difference between SOP & POS.
14. Draw the full- Adder circuit and explain it.
15. Draw the encoder circuit and explain it.
16. Explain the working of D - flip-flop.
17. Explain the working of shift register with truth table.
18. write a short note on ROM and explain different types of ROM.

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FOURTH SEMESTER END EXAMINATIONS

II B.Sc. –ELECTRONICS – Electronic Devices and Circuits

w.e.f 2019-20 Admitted Batch

MODEL PAPER

ELECTRONICS	CODE: 19ELE4	2019-20	B.Sc.
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Time : 3hours

Answer any five questions from Section A & Section B choosing atleast two from each section. Each question carries 10 marks.

5x10=50 marks

Part – I

Section-A

1. Draw the circuit diagram of Differentiator using op-amp and explain its operation with relevant wave forms
2. Explain the parameters of an op-amp
3. Draw the circuit diagram of an instrumentation amplifier using op-amp with its operation and derive the necessary expression
4. Explain the function of each pin of IC555 timer.
5. Design the BCD to seven segment code converter

Section- B

6. Explain the function of universal shift register
7. With neat block diagram, explain successive approximation type A/D converter in Detail.
8. Draw and explain the circuit diagram of dual slope ADC.
9. List the applications of shift registers.
10. Explain the working of digital clock

Part – II

Section - C

Answer any five questions.

5x5=25 marks

11. Draw the circuit and explain the working of Voltage to current converter
12. Design a first -order low pass filter so that it has a cut off frequency of 2kHz and pass Band gain of '1'.
13. Draw the circuit diagram of Schmitt trigger using op-amp and explain its operation With relevant waveforms.
14. Draw and explain the circuit operation of R-2R DAC.
15. Explain the working of logarithmic amplifier
16. Design the BCD to grey code converter.
17. With neat block diagram, explain sigma delta type A/D converter
18. Write short notes on UART

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FIFTH SEMESTER END EXAMINATIONS
III B.Sc. –ELECTRONICS –MICROPROCESSORS(5A)

ELECTRONICS	CODE: 19ELE5A	2019-20	B.Sc.
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Time : 3hours

Max.Marks:75.

Answer any five questions from Section A& Section B choosing atleast two from each section. Each question carries 10 marks. **5x10=50 marks**

Part – 1

Section-A

1. Draw and explain the pin diagram of 8085.
- 2.Explain various addressing modes of 8085..
- 3.Explain the timing diagram for op-code fetch cycle of memory read and memory write.
4. Give the functional explanation of RAM and ROM.
5. Write a program to find the largest number among given numbers using 8085..

Section-B

6. Write a program to convert binary numbers to BCD numbers using 8085.
7. Explain the interfacing of 2K X 8 ROM with 8085.
8. How an I/O port is interfaced in memory mapped I/O ?
9. Explain the block diagram and modes of PPI 8255?
10. How a stepper motor is interfaced with 8085 microprocessor?

Part – 2

SECTION- C

Answer any five questions.

5x5=25 marks

11. Explain about flags of 8085.
12. Write data transfer group instructions..
13. Explain instruction cycle of 8085.

- 14. Explain about debugging a program.
- 15. Write an assembly language program to add two 16-bit numbers.
- 16. What are the differences between I/O mapped and memory mapped I/O?
- 17. How 8085 controls temperature?
- 18. Briefly explain EPROM.

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FIFTH SEMESTER END EXAMINATIONS
III B.Sc. –ELECTRONICS –CONSUMER ELECTRONICS(5B)
w.e.f 2019-20 Admitted Batch
MODEL PAPER

ELECTRONICS	CODE: 19ELE5B	2019-20	B.Sc.
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Time : 3hours

Max.Marks:75.

Answer any five questions from Section A& Section B choosing atleast two from each section. Each question carries 10 marks.

5x10=50 marks

Part – 1

Section-A

- 1. Draw the block diagram of microwave oven and explain its working.
- 2. Explain the function of LCD timer with alarm in microwave oven.
- 3. Explain the block diagram of washing machine.
- 4. Explain Fuzzy logic washing machines.
- 5.Explain central air conditioning systems.

Section-B

- 6.Explain the working of split air conditioner.
- 7. Explain the working of xerographic copier.
- 8.Draw the block diagram of a digital clock and explain its working.
- 9.Explain the working of a digital computer.
- 10. Explain the working of automated teller machine (ATM) ?

Part – 2

SECTION- C

Answer any five questions.

5x5=25 marks

1. Explain the properties and applications of micro waves.
2. What are the wiring and safety instructions taken in microwave oven ?
3. What are the features of washing machines?
4. What are the components of air conditioning systems?
5. Explain the structure of a calculator.
6. Briefly explain facsimile machine.
7. Explain about set-top boxes.
8. Write about video on demand.

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SIXTH SEMESTER END EXAMINATIONS

III B.Sc. –ELECTRONICS –MICROCONTROLLERS AND INTERFACING

w.e.f 2019-20 Admitted Batch

MODEL PAPER

ELECTRONICS	CODE: 19ELE6	2019-20	B.Sc.
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Time : 3hours

Max.Marks:75.

Answer any five questions from Section A& Section B choosing atleast two from each section. Each question carries 10 marks.

5x10=50 marks

Part – 1

Section-A

1. Explain the difference between microprocessor and microcontroller.
2. Draw the pin diagram of 8051 and explain each pin in detail.
3. Explain the architecture of 8051 and explain each pin in detail..
4. Explain about memory organization of 8051..
5. Explain about different types of Addressing modes.

Section-B

6. Explain about (i)single bit instruction (ii)loop instruction(iii)Air thematic

instruction with one example each.

- 7. Write a ALP program on largest number in an array.
- 8. Write an ALP (i) 8-bit addition (ii) multiplication of 8-bit.
- 9. Briefly explain the architecture of 8255(PPI).
- 10.Explain about interfacing of stepper motor to 8051 microcontroller.

Part – 2
SECTION- C

Answer any five questions. **5x5=25 marks**

- 11. Write about evolution of microcontrollers
- 12. List and explain some 8051 16-bit registers.
- 13. Explain CALL instruction and stack.
- 14. Write an ALP program for division of two 8-bit numbers..
- 15. How the information is displayed on LCD?
- 16. Write short note on microcontroller testing tools.
- 17. Explain about stack pointer.
- 18. Draw the pin diagram for DAC.