

P.R. GOVERNMENT COLLEGE (A), KAKINADA

B.Sc. III Year - Electronics – Semester – VI

w.e.f. 2017-18 ADMITTED BATCH

PAPER – 8 A 2 [Cluster Elective A 2]

CONSUMER ELECTRONICS

3 Hours/Week [Total: 45 hrs]

Credits: 3

Course Learning Outcomes

The subject aims:

- To understand the operation of Micro wave oven.
- To understand the operation of Washing machines.
- To understand the operation of Air conditioners
- To understand the operation of Refrigerators
- To understand the operation of Xerox copier
- To understand the operation of Digital calculator
- To understand the operation of Digital clocks
- To understand the operation of Digital access devices like Barcode Scanner, ATM's, digital cable TV etc

Learning Outcomes:

Students will be able to:

- The student can gain good knowledge on various electronic appliances.
- Learn Interfacing of Various components of electronic appliances.
- Get familiar with real time operating system.
- Learn about power ratings of electronic appliances
- Learn about different types of digital access devices.

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SYLLABUS

UNIT-I (9 hrs)

Microwave Ovens:

Microwaves (Range used in Microwave Ovens) – Microwave oven block diagram - LCD timer with alarm - Single-Chip Controllers - Types of Microwave oven - Wiring and Safety instructions -Care and Cleaning.

UNIT-II (9 hrs)

Washing Machines:

Electronic controller for washing machines - Washing machine hardware and software- Types of washing machines - Fuzzy logic washing machines Features of washing machines.

UNIT-III (9 hrs)

Air Conditioners and Refrigerators:

Air Conditioning - Components of air conditioning systems -All water air conditioning systems - All air conditioning systems - Unitary and central air conditioning systems -Split air conditioners.

UNIT-IV (9 hrs)

Home/Office Digital Devices:

Facsimile machine - Xerographic copier -Calculators - Structure of a calculator - Internal Organization of a calculator - Digital clock - Block diagram of a digital clock.

UNIT-V (9 hrs)

Digital access devices:

Digital computer -Internet access - Barcode Scanner and decoder - Electronic Fund Transfer - Automated Teller Machines (ATMs) - Set-Top boxes - Digital cable TV - Video on demand.

Suggested Books:

1. S.P. Bali, Consumer Electronics - Pearson Education, New Delhi, 2005.
2. R. G. Gupta Audio and Video systems Tata McGraw Hill (2004)

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Model Question Paper

Note: - Set the question paper as per the blue print given at the end of this model paper.

TIME: 2 1/2 Hrs

Max Marks: 60

Section	Questions to be given	Questions to be answered	Marks
A	5	3	3 x 10M = 30M
B	9	6	6 x 5 M = 30M
Total	14	9	60M

Blue Print

Chapter Name	Essay Questions 10 marks	Short Questions 5 marks	Marks allotted
Microwave ovens	1	2	20
Washing machines	1	2	20
Air conditioners and refrigerators	1	2	20
Home/office digital devices	1	2	20
Digital access devices	1	1	15
Total marks			95

PAPER – 8 A 2 [Cluster Elective A 2]
CONSUMER ELECTRONICS
ESSAY QUESTIONS

UNIT- I

1. Draw and explain the Microwave oven block diagram.
2. Draw and explain the LCD timer with alarm.
3. Draw and explain Single-Chip Controllers, Types of Microwave oven - Wiring and Safety instructions -Care and Cleaning.

UNIT- II

1. Explain the block diagram of Electronic controller for washing machines.
2. Explain Washing machine hardware and software.
3. Explain Fuzzy logic washing machines.

UNIT- III

1. Explain Components of air conditioning systems.
2. Explain All water air conditioning systems.
3. Explain All air conditioning systems.

UNIT- IV

1. Explain the Calculators and Structure of a calculator
2. Explain Internal Organization of a calculator.
3. Explain the Block diagram of a digital clock.

UNIT- V

1. Draw and explain Digital computer
2. Discuss the Barcode Scanner and decoder.
3. Explain Internet access

**PAPER – 8 A 2 [Cluster Elective A 2]
CONSUMER ELECTRONICS**

SHORT ANSWER TYPE QUESTIONS

UNIT- I

1. Explain Types of Microwave oven.
2. Explain Wiring and Safety instructions.
3. Explain Care and Cleaning.

UNIT- II

1. Explain Types of washing machines.
2. Explain Features of washing machines.

UNIT- III

1. Explain Unitary and central air conditioning systems
2. Explain Split air conditioners.

UNIT- IV

1. Explain Xerographic copier.
2. Explain Facsimile machine
3. Explain Digital clock.

UNIT- V

1. Explain Electronic Fund Transfer.
2. Explain Automated Teller Machines (ATMs).
3. Explain Set-Top boxes.
4. Explain Digital cable TV and Video on demand.