

**INDIRA TECHNICAL INSTITUTE EDUCATION SOCIETY  
NASHIK**

**DIPLOMA VIDEO TELEVISION ENGINEERING SERVICES  
( DVTES )**

<b>THEORY PAPER I :</b>	Syllabus for this paper is same as Certificate Course in TELEVISION SERVICING [ TVS ] Refer this syllabus booklet Page No. _____	100 Marks
<b>THEORY PAPER II :</b>	Syllabus for this paper is same as Certificate Course in COLOUR TELEVISION SERVICING [ CTVS ] Refer this syllabus booklet Page No. _____	100 Marks
<b>THEORY PAPER III :</b>	Syllabus for this paper is printed below	100 Marks
<b>PRACTICAL I &amp; II :</b>	Two Separate Practical Each practical Scheme is same as per respective certificate course Practical 100 Marks each – Total 200 Marks.	200 Marks
<b>Total :</b>		<b>(500 marks)</b>



**( DVTES - PAPER - III )**

[ DVTES – III / DETES - V ]

**THEORY SYLLABUS**

**1) TELEPHONE TECHNOLOGY: -**

- a) Basic functions of telephone.
- b) Block diagram of digital telephone.
- c) Block diagram of cordless phone.
- d) Introduction of Mobile phones, EPBX.
- e) Introduction to Different section of Telephone (Ringer, Dialer, Keyboard matrix, Voltage dropper, Line IN / Protector ckt. and Speech & sound amplifier.
- f) Caller ID,

**2) OPERATIONAL AMPLIFIER: -**

- a) DC amplifier
- b) Transistor differential Basic Op-Amp
- c) Op-Amp characteristics & parameters
- d) Application of Operational amplifier:-
  - 1) Inverting amplifier.
  - 2) Non-inverting amplifier.
  - 3) Adder & Subtractor.
  - 4) Voltage follower.
  - 5) Comparator.
  - 6) Integrator & Differentiator.
  - 7) Phase lock loop (PLL)
  - 8) Use in a TV receiver and CD player.

### 3) CD PLAYER: -

- a) Compact Disk Structure.
- b) Constant linear velocity (CLV) recording system.
- c) Advantage of digital storage.
- d) SMD (Surface mounting devices) Technology
- e) CD Encoding process block diagram.
- f) Block diagram of CD player.
- g) Optional Pickup unit components.
- h) Idea about servo system: -
  - 1) Tracking Servo      2) Carriage Servo      3) Spindle Servo.
- i) Different motors used in CD players & their functions only: -
  - 1) Tray or loading motor (carriage motor)      2) Slide or sled or feed motor.
  - 3) Spindle or Disc or Turn table motor.
- j) Different sensors in CD players.
- k) Different types of Disc.
- l) Various parts of CD Mechanism & their function.
- m) Various functions carried out by system control processor.
- n) Various connectors & cards used in CD/MP3 player.
- o) Up gradation, graphic, equalizer & Digital surround sound.

### 4) VCD PLAYER: -

- a) Introduction to VCD & DVD.
- b) Comparison between CD ROM / DVD.
- c) Different types of DVD ROM
- d) Home Theater System: -
  - 1) Introduction to Home Theater system      2) Installation of Home Theater.

### 5) ADVANCED TV TECHNOLOGY SYSTEMS: -

- Introduction to: -
- 1) Video Projectors      2) Plasma TV
  - 3) LCD TV      4) Projection TV

### 6) CD/MP3/DVD PLAYER SERVICING: -

- a) Test Equipment and Tools safety precaution.
- b) Adjustment, cleaning, lubricants and maintenance of electrical & mechanical parts.
- c) Troubleshooting: -
  - 01) General Troubleshooting procedure.      02) Troubleshooting due to Power supply.
  - 03) Troubleshooting due to Pickup Unit.      04) Troubleshooting due to Carriage Motor.
  - 05) Troubleshooting due to Feed motor.      06) Troubleshooting due to Spindle motor.
  - 07) Troubleshooting due to Sensors.      08) Troubleshooting due to Tracking servo.
  - 09) Troubleshooting due to Carriage servo.      10) Troubleshooting due to Spindle servo.

### 7) SATELLITE COMMUNICATION: -

- a) Introduction to Satellite communication & Reception.
- b) Introduction to Dish Antenna, Different parts of Dish Antenna.
- c) LNB Assembly.
- d) Assembly of Dish Antenna (TATA SKY, MEPL, Dishnet etc.).
- e) Alignment of Dish antenna.
- f) Setting of different channels.
- g) Difference between Free & Pay channels.

## GUIDELINES FOR QUESTION PAPER SETTERS - DVTES – III / DETES – V

	Marks
Q.No.1 A) Fill in the blanks.	(05)
B) Match the following.	(05)
C) Write short answer.(answers should not be more than 2 lines)	(10)
Q.No.2 A) Topic 1.	(08)
B) Topic 2.	(08)
Q.No.3 A) Topic 3.	(16)
Q.No.4 A) Topic 3.	(08)
B) Topic 5.	(08)
Q.No.5 A) Topic 4.	(16)
Q No.6 No question ask on circuit diagram.	
A) Topic 7.	(08)
B) Topic 6.	(08)

## PRACTICAL EXAMINATION - I FOR: - DVTES – I / DETES – III

Practical – I : - 100 Marks – 2 Hours.

Each candidate will have to locate three faults. Each fault will give 8 marks to locate fault and 12 marks for write up. One fault in Power supply or CRT circuit, One fault in Video Tuner, VIF, Sound circuit and One fault in Scanning circuits. The write up indicate the logical method of located faults.

Journal / Term work	20 Marks.
<b>( Journal should contain minimum 50 recommended experiments)</b>	
Oral examination	20 Marks.

## PRACTICAL EXAMINATION - II FOR: - DVTES - II / DETES – IV

Practical – II : - 100 Marks – 2 Hours.

Each candidate will have to locate three faults. Each fault will give 8 marks to locate fault and 12 marks for write up. One fault in Power supply or CRT circuit, One fault in Video Tuner, VIF, Sound circuit and One fault in Scanning circuits. The write up indicate the logical method of located faults.

Journal / Term work	20 Marks.
<b>(Journal should contain minimum 50 recommended experiments)</b>	
Oral examination	20 Marks.

## RECOMMENDED BOOKS FOR REFERENCE

Operation Amplifier	Botkar
OP-Amp Projects	BPB
Modern CD Player	BPB
Modern Satellite & Cable TV Manual	BPB (Manahar Lotia)

