

How to prepare for IES/ESE with Telecommunications stream

Let us discuss with subject wise. Here we have many books for each subject. But by experience we are going to give one book for each subject/topic. Our intention is not to say other books are not recommended, but we are recommending these. We took old question papers analysis, and depending on that we give preference to each.

Paper-I

1. Material Science and Components:

Book: Material Science by Indulkar. All over one book is sufficient for this Material science subject as marks coming are less. Even we can leave this subject for Descriptive paper.

For objective: They decreased importance of this subject from last years. So, we can expect around 10 to 12 questions from this area.

2004	2005	2006	2007	2008	2009
20	19	14	16	7	10

For Descriptive: For this also they decreased importance from past years. We can expect around 25 marks from this area.

2004	2005	2006	2007	2008
40	60	25	25	15

2. Physical Electronics, Electronic Devices and ICs:

Books: Theory from Milliman & Halkies Black Pad, and Problems from Sedra & Smith. For Integrated Circuits (ICs)- Pucknell.

For Objective: By seeing below we can expect around 20 marks.

2004	2005	2006	2007	2008	2009
19	25	24	23	24	20

For Descriptive: By seeing below table we can say that, importance for ICs is increasing and EDC part is decreasing. At any cost we have to study this subject for Descriptive.

	2004	2005	2006	2007	2008
EDC	60	50	85	25	25
Ics	10	10	10	40	40

1. Signals & Systems:

Books: Oppenheim for both theory and problems. This is the only book sufficient for this subject.

For Objective: By seeing the following table we can expect around 20 questions from this subject.

2004	2005	2006	2007	2008	2009
24	21	18	19	20	20

For Descriptive: By seeing the following table we can say that, importance is increasing. So, we should not leave this subject.

2004	2005	2006	2007	2008
0	35	10	40	80

2. Network Theory:

Books: Hayt & Kemmerly for topics like KCL, KVL, Nodal, Mesh, 1st order and 2nd order transients.

Van Valkenberg for topics Two port parameters, Laplace Transform Techniques,

Chakravarthi for topics Theorems, Mutual Inductance, Graph Theory etc.,

For Objective: By seeing the following table we can expect 25 to 30 questions.

2004	2005	2006	2007	2008	2009
19	19	18	20	28	25

For Descriptive: As importance is varying between 40 to 80 marks, we should not leave this subject also. As this is completely problematic subject, we need to practice a lot. Else we may do silly mistakes and may lose more marks.

2004	2005	2006	2007	2008
85	40	40	80	40

3. Electro Magnetic Theory:

Books: Sadique for Electric and Magnetic Fields for both theory and problems,

Jordan & Ballman for Transmission lines for problems and theory also.

Antennas K D Prasad. As formulae is only important here. Formulae like Power Equation, Standing Wave Equn, Reflection, Aperture, Length of Antennas, Radiation Resistance, Power Radiated, Antenna Arrays are important.

For Objective: We can expect 18 to 25 questions from this area. As subject is problematic and they are not allowing calculator means, they give more formulae based questions.

2004	2005	2006	2007	2008	2009
20	19	22	27	14	18

For Descriptive: Fields are not much important. But transmission lines are important. Even we can leave this subject completely for Descriptive except Transmission lines.

Fieds	10	0	0	30	0
Transmission Lines	25	40	40	10	0
Antennas	10	0	0	0	0

4. Electrical Measurements and Instrumentation:

Books: A K Sawhney is enough.

For Objective: Around 20 questions we can expect. Most of the questions are from Electronic Measurements only.

2004	2005	2006	2007	2008	2009
18	18	20	20	21	20

For Descriptive: This subject is very important and at any cost we should not leave this subject. By observing below table we can say Electronic Measurements are more important than Electrical Measurements.

	2004	2005	2006	2007	2008
Electrical Measurements	10	25	15	25	15
Electronic Measurements	30	15	25	15	65

By observing all the subjects in Paper-I, we should study each subject for Objective and EDC & ICs, Signals & Systems, Network Theory, Measurements subjects are more important.

Paper –II

1. **Analog Electronic Circuits:** More problems will come compared to theory. So, we can directly solve problems and leave theory also. Milliman & Halkies yellow pad need not be studied.

Books: Sedra & Smith or Boylsted for Problems.

For Objective: We can expect around 20 questions from this area.

2004	2005	2006	2007	2008	2009
23	21	22	20	20	19

For Descriptive: As number of marks coming from this area is considerable, we should practice this subject a lot.

2004	2005	2006	2007	2008
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66	60	66	40	66
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2. **Digital Electronics:**

Books: Morris Mano for Combinational Logic for theory.

Kohavi for Sequential Logic - theory. Even reduction by prime implicants method also can be prepared from this book.

R P Jain for problems.

Objective: We can expect around 20 questions from this.

2004	2005	2006	2007	2008	2009
19	20	21	22	18	20

Descriptive: By seeing the following table, we can say that Sequential is more important than Combinational logic. At any cost we have to practice a lot in Sequential logic.

	2004	2005	2006	2007	2008
Combo	21	18	8	20	14
Sequential	25	25	28	36	31

3. **Control Systems:**

Books: Nagrath & Gopal for Theory

Nagoorkani or Jayrath or B S Manke for Problems.

Objective: We can expect 20 to 25 questions this year.

2004	2005	2006	2007	2008	2009
21	21	19	20	22	23

Descriptive: Compared to Frequency domain, Time domain is more important. We should read this subject.

	2004	2005	2006	2007	2008
Time Domain	30	40	30	38	40
Frequency Domain	18	0	18	10	8

4. Communication Systems:

Books: Simen & Haykin for Theory and either Schaums Series or Kennedy for Problems.

For Digital Communication Problems: Sklar

Objective: We can expect 20 to 30 questions from this area.

2004	2005	2006	2007	2008	2009
22	24	28	13	28	23

For Descriptive: All parts are important only. But for Satellite and Optical, we can expect repetitive questions/important questions only. We should study this subject.

	2004	2005	2006	2007	2008
Analog	18	0	8	10	15
Digital	0	20	30	26	10
Satellite	30	15	30	0	23
Optical	8	0	8	20	10

5. Microwave:

Book: Kulkarney.

Objective: We can expect 15 to 18 questions from this area.

2004	2005	2006	2007	2008	2009
18	16	10	19	18	18

Descriptive: Here though marks coming from this area is considerable, we can leave this subject as basically it's a dry subject and hard to get interest into this.

	2004	2005	2006	2007	2008
Microwave Engineering	46	55	43	38	41

6. Computer Engineering and Microprocessors:

Books: Goankar and B Ram for Microprocessors

V Rajaraman for Computer Engineering.

Institute of Engineering Studies (IES,Bangalore)

Objective: We can expect 10 to 20 questions from this area. Donot forget to read complete instruction set at the end of Goankar.

2004	2005	2006	2007	2008	2009
18	16	10	19	18	18

Descriptive:

	2004	2005	2006	2007	2008
Computer Engineering	25	48	26	18	43
Micro processor	33	0	20	20	0

All over we can say that, we should prepare Analog Electronics, Digital Electronics, Control Systems, and Communications for Descriptive paper.