

>> BEL Syllabus :-

1) Electronic Devices and Components:

Conductors; Insulators, Semiconductors; Energyband theory, Semiconductor devices; PN Junction diode, Zener Diode, Bipolar Junction, Transistor, Field effect transistor, Unijunction transistor, Silicon controlled rectifier, Opto electronic devices, Components; Resistors, Inductors and Capacitors.

2) Electrical Circuits and Machines:

Basic electricity; Magnetic circuits; capacitors; A.C. circuits; Resonance; Network theorems; transformers; D.C. Machines; Types of Generators; A.C. Machines, synchronous machines, Induction motors.

3) Programming and Applications of Computers:

Classification of computer; various input devices, output devices and memory units; computer codes; simple programs in BASIC, SMART work for PCB circuits.;14;

4) Electronic Circuits:

Bias and Bias stability; BJT amplifiers, FET amplifiers; power amplifiers; feedback amplifiers and oscillators; waveshaping and sweep circuits; power supplies and voltage stabilizers.

5) Micro Electronics:

Switching algebra and logic gates; fabrication of Integrated circuits; Digital logic families; sequential logic circuits; operational amplifiers; its applications; voltage regulation; voltage comparators; phase locked loop; timer I.C.S.; D/A convertors; A/D convertors.

6) Network, Antenna and Propagation:

Four terminal networks; equalizers and attenuators; filters; transmission lines; Distortion less line; waveguides; Antennas; Propagation.

7) Measurement and Instruments:

Electrical indicating Instruments; D.C. bridges; RLC bridges; signal Generators; Oscilloscopes; Recorders and Transducers; Electronic indicating instruments; Digital voltmeter; digital frequency counter.

8) Communication Engineer and System:

Electro Acoustic transducer; Types of modulation; AM, FM, Pulse modulation; its types, transmitters; receivers. Telephony and Telegraphy; facsimile; microwave devices; Radar systems; digital communication; microwave and satellite communication; optical communication.

9) Microprocessor and its Applications:

Introduction to microprocessors; organization of 8085 micro processor; programming of microprocessor; timing sequences; data transfer methods; peripheral interfacing techniques; applications.

10) Television Engineering:

Television fundamentals; various standard; specification of CCIR;B, TV camera tube, and picture tubes; TV transmitters; TV receiver circuits; colour television; Block diagrams; applications of T.V.; video cassette recorder; telecine equipment; special effect generator.