

Scheme and Syllabus for the Limited 'Internal Competitive Examination (LICE) for filling up vacancies in the cadre of Junior Telecom Officer (Telecom.) under 35% and 15% Internal Quota

Maximum Marks-150 || **Duration :- 3 Hrs.** || one Mark each Question

(Objective multiple Choice Questions)

Part A- General English & General Studies :- 50 Marks

Part B - Technical Paper (Specialization) :- 100 Marks

The minimum qualifying marks in the examination will be 40% of total marks for General candidates and 33% of total marks for SC/ ST candidates.

SYLLABUS

Part A- General English & General Studies- 50 Marks.

Standard of the paper:- Standard of the paper will be such that of CBSE Xth Standard.

The question paper in General English shall be designed to test the candidate's understanding of English.

- (i) Comprehension of given passages.
- (ii) Usages and vocabulary
- (iii) Grammar

The paper on General Studies shall include questions on the following topics:-

- (1) General Science.
- (2) Geography of India and its natural resources.
- (3) Current Events of National & International Importance.
- (4) General Mental Ability Test.

Questions of General Science will cover General Appreciation and understanding of Science including matters of everyday observations and experience, as may be expected of an educated person, who has not made a special study of any scientific discipline.

Questions in the Geography of India and its natural resources will relate to Physical Social & Economic Geography of India.

Questions on the General Mental Ability Test will include questions on Analogies, similarities, differences, space visualization, problem solving, analysis, Judgment, decision making, visual memory, discrimination, observation, relationship, concepts, arithmetical reasoning, verbal & figure classification, arithmetical number series etc.

Part B- TECHNICAL PAPER-(SPECIALIZATION)**(100 Marks)***Standard of paper: The standard of Paper shall be that of an Engineering Diploma.***1. COMPUTER ARCHITECTURE**

Computer architecture, basic computer organization and design programming, CPU,I/O organization, memory organization. Control unit design. Familiarization with DOS and Windows-concept of file, directory, folder, Number systems, Programming- Elements of a high level programming language, PASCAL, C: Use of basic data structures. Web Page Design; Scripting Language - Perl / CGI / JavaScript; Fundamentals of JAVA Programming; Advanced Features of JAVA Programming.

2. DATA COMMUNICATION AND COMPUTER NETWORK :-

Data Network and Networking Basics; MAC &Data Link Layer Network, Transport (TCP/IP). Introduction to Computer Network, LAN, MAN, WAN, Network essentials, Internet addresses, ARP, RARP, Internet protocols, user data, gram protocol, transmission control protocol, routines, internet multi testing, socket interface, domain name system, applications.

3. DATA STRUCTURE AND ALGORITHMS :-

Basis concepts of data representation, introduction to algorithms design and data structure, Arrays stacks and queues, linked lists, storage allocation and garbage collection, symbol tables, Searching, Sorting and Merging Techniques.

4. DATABASE MANAGEMENT SYSTEM :-

Database, Data models, rational algebra and normalization, statistical quality level, distributed and object data basis. Introduction to the Relational Model; Normalisation and Query Processing; Recovery, Concurrency Management and Database Security.

5. ELECTRONIC /ELECTRICAL MEASUREMENT & MEASURING INSTRUMENT :-

Electrical Measuring Instruments, Watt meters and 'energy meters, measurement of resistance, measurement of inductance and capacitance, electronic voltmeters, audio and radio frequency measurements, A F & R F Power measurements, digital instruments.

6. ELECTRICAL INSTALLATION & MAINTENANCE :-

Single-Phase supply vs. 3 Phase supply, Star Delta connections, relation between phase & line voltage power factor. All types of motor and generators-AC & DC transformers, starters, rectifiers, inverters, batteries. Installation, commissioning, earthing, insulation testing and maintenance, preventive maintenance, electrical accidents and safety measures, switchgear, sub-stations, maintenance of relays and circuit breakers. A.C. Circuits, Circuit Theorems, Four Terminal Passive Networks, Coupled circuits and their analysis, Passive filters, Lightning protection, power electronics application in control of drivers, Refrigeration & air-conditioning.

7. FUNDAMENTALS OF DIGITAL CIRCUITS :-

Fundamentals of digital electronics, Transister as a switching elements; Boolean algebra, Simplification of Boolean functions, Karnaugh Map and applications; Number System, IC Logic Gates, Logic-Circuits, Encoders and Decoders, binary code converters, Arithmetic Logic Units (ALU), DTL, TTL, NMOS, PMOS AND CMOS gates and their comparison; Combination logic circuits; Half

adder, full adder; Digital Comparator, Multiplexer Demultiplexer; ROM and their applications. Flip-flops, R-S, J-K, D and T Flip-flops; Different type of counters and registers; A/D and D/A converters.

8. COMMUNICATION SYSTEMS :-

Amplitude, frequency and phase modulation, their generation and demodulation, Noise. PCM, basic principles of SPC Exchanges .. Quantization & Coding; Time division and frequency division multiplexing; Equalization; Optical communication- in free space & fibre optic; Propagation of signals at HF, VHF, UHF and Microwave frequency; Satellite Communication.

9. FOUNDATION IN INFORMATION TECHNOLOGY :-

Information System - Hardware; Software; Software Engineering; Operating Systems.

10. COMPUTING :-

An Object Oriented Approach: Introduction to Object Oriented Concepts; Object Oriented Programming Language; Object Oriented Analysis and Design.

11. DISCRETE ELECTRONIC DEVICES & CIRCUITS :-

The P-N Junction, Junction Diode, Zener Diode, BJT. Configurations and biasing, low frequency low signal Hybrid Models of BJT; JFET, MOSFET, c-MOS, Photo-Electric Devices, Feedback Amplifiers, Oscillators, R.F. Voltage Amplifiers using BJT, Special Semiconductor Devices.

12. MICROPROCESSORS :-

Architecture & programming of 8086/8088, Microprocessor based data acquisition, memory address & DMA controllers, arithmetic co-processor, other micro processors, micro processor applications. Study of Peripheral Chips: 8255, 8279, 8155, 8259. Study of ADC 0808, DAC 0800.

13. RADIO COMMUNICATION SYSTEMS:-

Principles of Radio Communication, A.M., F.M. Radio, Phase Modulation. Signal conditioning and Transmission Study of special chips, output interfacing, output instruments-indicators, recorders, data acquisition systems, data loggers, servo mechanism, electronic process control instrumentation. Wave propagation, Microwave devices & components, microwave measurements, antenna fundamental & their characteristic. Audio Engineering, sound transducers, sound recording & reproduction, sound transmission, radio transmission, radio reception.

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English Medium | Online Mode Only

KEY FEATURES

- LICE Previous year papers (18 +) online Practice.
- More Than 30 + Papers for Practice (Unit Test /Subject test/ Full Mock test)
- More Than 2000 + Questions for Practice.
- Two Attempts of Each paper.
- All India Ranking
- Analysis will be given after each test.