DETAILED SYLLABUS FOR THE POST OF ASSISTANT SUB INSPECTOR TRAINEE (TELECOMMUNICATIONS) IN (KERALA POLICE SERVICE)

(Cat No.748/2024)

TOTAL MARKS : 100

RENAISSANCE IN KERALA AND FREEDOM MOVEMENT (20 Marks)

Towards A New Society

Introduction to English education - various missionary organisations and their functioning- founding of educational institutions, factories.printing press etc.

Efforts To Reform The Society

(A) Socio-Religious reform Movements

SNDP Yogam, Nair Service Society, Yogakshema Sabha, Sadhu Jana Paripalana Sangham, Vaala Samudaya Parishkarani Sabha, Samathwa Samajam, Islam Dharma Paripalana Sangham, Prathyaksha Raksha Daiva Sabha, Sahodara Prasthanam etc.

(B) Struggles and Social Revolts

Upper cloth revolts.Channar agitation, Vaikom Sathyagraha, Guruvayoor Sathyagraha, Paliyam Sathyagraha. Kuttamkulam Sathyagraha, Temple Entry Proclamation, Temple Entry Act .Malyalee Memorial, Ezhava Memorial etc.
Malabar riots, Civil Disobedience Movement, Abstention movement etc.

Role Of Press In Renaissance

Malayalee, Swadeshabhimani, Vivekodayam, Mithavadi, Swaraj, Malayala Manorama, Bhashaposhini, Mathnubhoomi, Kerala Kaumudi, Samadarsi, Kesari, AI-Ameen, Prabhatham, Yukthivadi, etc

Awakening Through Literature

Novel, Drama, Poetry, *Purogamana Sahithya Prasthanam, Nataka Prashtanam,* Library movement etc

Women And Social Change

Parvathi Nenmenimangalam, Arya Pallam, A V Kuttimalu Amma, Lalitha Prabhu.Akkamma Cheriyan, Anna Chandi, Lalithambika Antharjanam and others

Leaders Of Renaissance

Thycaud Ayya Vaikundar, Sree Narayana Guru, Ayyan Kali.Chattampi Swamikal, Brahmananda Sivayogi, Vagbhadananda, Poikayil Yohannan(Kumara Guru) Dr Palpu, Palakkunnath Abraham Malpan, Mampuram Thangal, Sahodaran Ayyappan, Pandit K P Karuppan, Pampadi John Joseph, Mannathu Padmanabhan, V T Bhattathirippad, Vakkom Abdul Khadar Maulavi, Makthi Thangal, Blessed Elias Kuriakose Chaavra, Barrister G P Pillai, TK Madhavan, Moorkoth Kumaran, C. Krishnan, K P Kesava Menon, Dr.Ayyathan Gopalan, C V Kunjuraman, Kuroor Neelakantan Namboothiripad, Velukkutty Arayan, K P Vellon, P K Chathan Master, K Kelappan, P. Krishna Pillai, A

K Gopalan, T R Krishnaswami Iyer, C Kesavan. Swami Ananda Theerthan , M C Joseph, Kuttippuzha Krishnapillai and others

Literary Figures
Kodungallur Kunhikkuttan Thampuran, KeralaVarma Valiyakoyi Thampuran, Kandathil Varghese Mappila. Kumaran Asan, Vallathol Narayana Menon, Ulloor S Parameswara Iyer, G Sankara Kurup, Changampuzha Krishna Pillai, Chandu Menon, Vaikom Muhammad Basheer. Kesav Dev, Thakazhi Sivasankara Pillai, Ponkunnam Varky, S K Pottakkad and others.

General Knowledge and Current Affairs

Salient Features of Indian Constitution
Salient features of the Constitution - Preamble- Its significance and its place in the interpretation of the Constitution.
Fundamental Rights - Directive Principles of State Policy - Relation between Fundamental Rights and Directive Principles - Fundamental Duties.
Executive - Legislature - Judiciary - Both at Union and State Level. - Other Constitutional Authorities.
Centre-State Relations - Legislative - Administrative and Financial.
Services under the Union and the States.
Emergency Provisions.
Amendment Provisions of the Constitution.

Social Welfare Legislations and Programmes
Social Service Legislations like Right to Information Act, Prevention of atrocities against
Women & Children, Food Security Act, Environmental Acts etc. and Social Welfare Programmes like Employment Guarantee Programme, Organ and Blood Donation etc.

NTC in Radio/Television Total -20Marks

MODULE I (10 marks)
RADIO COMMUNICATION
Modulation-amplitude modulation and frequency modulation, modulation Index, Carrier signal, modulated signal, AM modulator, FM Modulator, Demodulation, Bandwidth, AM applications, FM applications ,AM receiver-super heterodyne radio receiver, FM receiver
Radio wave propagation Types of propagation-ground wave propagation-Sky wave propagation, Space wave
AF, IF, RF

MODULE II (10 marks)
TELEVISION TRANSMISSION
Television transmitters,
Antenna. types-dipole antenna, Yagi _uda antenna, transmission lines feeders, coaxial cables ,
Persistence of vision of eye
Picture transmission

Scanning in picture tube Progressive scanning inter laced scanning-composite video signal, negative picture transmission, equalizing pulses
Video signal band width ,channel band width, SSB(Single side band transmission) VHF, UHF-Ranges
Colour TV Transmission, Primary colours, Secondary colours
Y=0.3R+0.59G+0.11B
Colour burst signal AGC,Tv tuner card DTH compatibility visible spectrum
(If needed Satellite communication Transmission –lines-characteristic impedance-transponders-reception-digital communication-signal encoding-decoding-geo stationary satellite –Indian domestic satellites)

Electronics &Telecommunication Total-20 Marks

Radio Wave Propagation 3 marks
Radio Wave Propagation Principle, types of Propagation .Fading.
Modulation and Demodulation 3 marks
Need For Modulation, Types Of Modulation And Demodulation. Introduction To AM, FM & PM, SSB-SC & DSB-SC. Block Diagram Of AM And FM Transmitter. FM Generation & Detection. AM, FM & PM comparisons.
Antenna 3 marks
Fundamentals Of Antenna, Various Parameters, Types Of Antennas & Application
Digital Modulation and Demodulation. 3 marks
Techniques, Sampling, Quantization & Encoding. Concept Of Multiplexing And De Multiplexing . PAM/ PPM /PWM Signals and principles
Mobile Communication 2 marks
Basics of Mobile Communication. Concept Cell Site, Hand Off, Frequency Reuse, Block Diagram And Working Of Cell Phones, Cell Phone Features. GSM and CDMA Technology
Communication equipment 2 MARKS
AM&FM RADIO Concept And Working, TELEVISION Concept And Working And Optical Fibre Equipments.
ELECTRICAL AND ELECTRONIC GADGETS 2 MARKS
UPS, INVERTER, SABILIZER AND SMPS working principles
E-GOVERNANCE 1MARK
Objectives, Origins In India, E-Governance Project In India. Work plan And Infrastructure. DBMS, ANTI-VIRUS.
WIRELESS AND TELEGRAPHIC ACT 1932 1MARK
Definitions. Licence. Offence and Penalty

Electrical Engineering Total-20Marks

Module I (Basic Electricity) – 4 marks
Electrical units, Effects of electric current, conductors and insulators. Types of solder and flux. Ohms law and related problems. Kirchhoff's law and application. Series circuit, parallel circuit. Laws of resistance. Wheatstone bridge problems. Temperature coefficient of resistance. Ohm meter- series type shunt type. Type of resistor, colour coding.
Module II (AC Circuits) – 4 marks

AC terms- Frequency, Instantaneous value, RMS value, Average value, maximum value, peak factor, form factor, power factor, impedance. Sine wave, phase and phase difference. Active and reactive power. Simple problems on AC circuits.

Module III (Magnetism) – 2 marks

Magnetic terms and units. Magnetic material, Properties of magnet. Laws of electromagnetism- self induced emf, mutually induced emf, inductive reactance.

Module IV (Transformer) – 2 marks

Working Principle, construction, EMF equation. Turns Ratio, Voltage regulation. Current transformer, potential transformer.

Module V (wiring) – 2 marks

IE rules. Wiring accessories- switches, fuses, MCB, ELCB, MCCB, RCCB, relays. Earthing- megger, earth tester.

Module VI (Illumination) – 2 marks

Illumination terms and units. Types of lamps-fluorescent lamp, incandescent lamp, sodium vapour lamp, mercury vapour lamp, carbon arc lamp.

Module VII (DC generator) – 2 marks

DC generator- Principle, parts and functions, types, EMF equation. Voltage build up.

Module VIII (AC 3 phase motor) – 2 marks

Three phase induction motor- Principle, parts and functions. Slip, speed, rotor Frequency, torque, copper loss, applications.

Computer & Information Technology Total-20 Marks

Module 1 (3 Marks)

Introduction to computer system.

Historical evolution of computers

Generations of computers

Classification of computers based on size, processor. – Analog, Digital, Hybrid

Digital Computers – Micro, Mini, Mainframe, Super

Usefulness of Computers.

Applications of computers

Components and characteristics.

Interaction between the CPU & Memory

Module 2 (4 Marks)

Peripheral Devices

Input Devices- Keyboard, Mouse, Joy Stick, Light pen, Track Ball, Scanner, Graphic Tablet, Microphone, Web Camera, Magnetic Ink Character Reader (MICR), Optical Character Reader (OCR), Bar Code Reader, Optical Mark Reader (OMR)

Output devices-

1. Monitors- Cathode-Ray Tube (CRT), Flat-Panel Display,
2. Projectors
3. Graphic Plotter
4. Speakers
5. Printers- Classification

1. Technology

(a). Impact Printers-dot-matrix, daisy-wheel, Drum, Chain and line printers.

(b). Non-Impact Printers - Laser Printers, Inkjet Printers, Thermal Printers.

2. How many Characters can be printed at a time?

(a) Character Printers.

(b) Line Printers

(c) Page Printers

Module 3 (3 Marks)

Functions of CPU and major functional parts of CPU

State the relevance of speed and word length for CPU Performance,

Recognize the current family of CPUs used in Computers,

Types of Memory- RAM, ROM, PROM, EPROM, EAPROM, EEPROM

Storage Devices- Floppy disk, CD, DVD, Zip Drives, Pen drives, SSD etc.

Concepts of Hardware and Software.

· Function of motherboard components and various processors.

Module 4 (2 Marks)

Introduction to Operating Systems

MS-Windows, Apple – macOS, Linux etc.

Main features of Windows OS

Concept of various shortcut commands

Module 5 (3 Marks)

Word Processing Software

· Introduction to the various applications in MS office.

· Introduction to Word features, Office button, toolbars.

· Creating, saving and formatting and printing documents using Word.

· Working with objects, macro, mail merge, templates and other tools in Word.

Module 6 (3 Marks)

Networking Concepts

· Introduction to Computer Networks, Necessity and Advantages.

· Client Server and peer to Peer networking concepts.

· Concept of Proxy Server and proxy firewall server.

· Concept of DHCP Server.

· Network topologies.

Introduction to LAN, WAN and MAN.

· Network components, viz.

Modem, Hub, Switch,

Router, Bridge, Gateway etc.

· Network Cables, Wireless networks and Blue Tooth technology.

· Overview of various Network Protocols Viz. HTTP, TCP/IP, FTP, Telnet etc.

· Concept of Logical and Physical Addresses,

Subnetting and Classes of Networks.

Module 7 (2 Marks)

Internet Concepts

· Introduction to www, Concept of Internet, Web Browsers, internet servers and search engines.

· Concepts of Domain Naming Systems and E-mail communication.

· Introduction to video chatting tools and Social Networking concepts

NOTE: - It may be noted that apart from the topics detailed above, questions from other topics prescribed for the educational qualification of the post may also appear in the question paper. There is no undertaking that all the topics above may be covered in the question paper.