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ASSISTANT TRANSPORT OFFICER SYLLABUS

KERALA STATE ROAD TRANSPORT CORPORATION

CATEGORY NO.400/2013

## Module I

Concepts of System,Control volume,Extensive and Intensive properties,Heat and Work.Laws of Thermodynamics,Enthalpy,Entropy,Availability,Isentropic and Isenthalpic Processes,Relative Humidity,Wet bulb and dry bulb temperature,Joule Thompson Coefficient,Vapour Compression System,Vapour Absorption System,Refrigerants.

## Module II

Pressure,Viscosity,Laminar and Turbulent Flows,Bernoulli Equation,Losses in pipes,Discharge measuring equipments,Pumps and Turbines,Concept of aerofoil,Boundary layer,Fully developed flow,Hagen-Poiseuille Flow,Incompressible and Compressible Flows,Fanno Flow,Rayleigh Flow,Fully Developed Flow,Hydraulic lift and ram

## Module III

Otto Cycle,Diesel Cycle,Dual cycle,Scavenging,Compression Ratio,Principle of combustion,Two stroke and Four Stroke Engines,Knocking,Octane and cetane Number,Components of transmission system,Fourier Equation of heat Conduction,Newton's law of cooling,Reynolds' No.,Prandtl No.,Fourier No.,Biot No.,Grashoff No.,Heat Exchangers,Fins,Effectiveness,NTU,LMTD,Emissive Power,Emissivity,Gray body.

## Module IV

Clutches,Gears,Propeller shaft,Differential,Axles,Brake system,Chassis Frames and Springs,Steering mechanisms,Fuel feed systems,Carburettor,MPFI,CRDI,Supercharger and Turbocharger,Ignition Systems,Starting System,Fuels,Dynamo,Alternator,Lubricating and Cooling Systems,Piston Rings,Radiator.

## Module V

Personnel Management-Definition-Personnel Manager-role functions.Difference between HRM and Personnel Management-Design and Analysis of Jobs-Human Resource Planning-Recruitment and Selection-Induction and Placement-Training and Development-Transfers and Promotions-modes of separation of employee-Designing of Effective Performance Appraisal Systems-360 degree feedback-Wages and Salary Administration-Theories of Wages-Job Evaluation and Merit rating-occupational health,safety and Social security-grievance redressal-Management of Change-Changing Role of Personnel Manager-Current Trends in Human Resources Management-HR Audit.

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## Module VI

Theories of Motivation-Job stress-Stress management techniques-Factors affecting Communication-Its Channels and barriers-Developing interpersonal awareness-Johari Window-Transactional Analysis-Industrial Relations system in the Indian environment-ILO and Tripartite Bodies in India-Trade Union Movement in India-Recognition-Problems-Management of Trade Unions-Industrial Laws India-Trade Union Act-Industrial Employment Standing Order Act-Industrial Disputes Act.Collective Bargaining-Industrial Relations in Public and Private Sector Organisations-Workers Participation in Management-Issues in managing Multicultural workforce.

## Module VII

Marketing-Importance ,Scope-Creating and Delivering customer value-The marketing environment-Fundamentals of strategic and marketing planning-Marketing organization.Marketing Research-Demand estimation and sales forecasting-Buyer behavior-The Indian consumer-segmentation-Targeting-Positioning.Marketing mix-product-new product development,PLC.Product line,product mix,strategies-branding,Brand equity-Pricing strategies and programmes.

## Module VIII

Physical distribution-Selection and Management-Retailing wholesaling and logistics-Managing marketing communication-Promotion mix-Advertising,Personal selling,Sales promotion,Publicity,Direct marketing.Evaluation of marketing programs-Customer Relationship Management-International marketing-Rural marketing-Designing and Managing Services-Marketing ethics-demarketing-Social responsibility of marketing-Marketing recent trends-Online marketing-Global Marketing-Green Marketing-Retro Marketing.

## PART II:GENERAL KNOWLEDGE,CURRENT AFFAIRS &RENAISSANCE IN KERALA

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

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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.

## RENAISSANCE IN KERALA

### Towards A New Society

Introduction to English education-various missionary organizations 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,Guruvayoor Sathyagraha,Paliyam Sathyagraha.Kuttamkulam Sathyagraha,Temple Entry Proclamation,Temple Entry Act,Malayalee 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,Mathrubhoomi,Kerala Kaumudi,Samadarsi,Kesari,Al-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

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Thycaud Ayya Vaikundar,Sree Narayana Guru,Ayyan Kali,Chattampi Swamikal,Brahananda Sivayogi,Vagbhadanda,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 Chavara,Barrister G P Pillai,T K Madhavan,Moorkoth Kumaran,C.Krishnan,K P Kesava Menon,Dr.Ayyathan Gopalan,C V Kunjuraman,Kuroor Neelakantan Namboothiripad,Velukkutty Aryan,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

### General Knowledge and Current Affairs

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.