

**FURTHER DETAILS REGARDING MAIN TOPICS OF**  
**PROGRAMME NO. 01/2016 (Item No. 7)**  
**ASSISTANT TRANSPORT OFFICER**  
**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.

### **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 organisation. Marketing Research - Demand estimation and sales forecasting - Buyer behaviour - 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**

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 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, 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, 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**

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.***