

જાહેરાત ક્રમાંક ૪૪/૨૦૧૮-૧૯

જગ્યાનું નામ : આચાર્ય, ગુજરાત કૌશલ્ય તાલીમ સેવા, વર્ગ-૨

ભાગ-૧ અને ભાગ-૨ ના ૧૮૦ મિનિટના સંયુક્ત પ્રશ્નપત્રની પ્રાથમિક કસોટીનો સામાન્ય અભ્યાસ અને સંબંધિત વિષયને લગતો અભ્યાસક્રમ

ભાગ-૧ પ્રાથમિક કસોટીનો સામાન્ય અભ્યાસક્રમ

માધ્યમ : ગુજરાતી

કુલ પ્રશ્નો : ૧૦૦

કુલ ગુણ : ૧૦૦

૧	ભારતની ભૂગોળ - ભૌગોલિક, આર્થિક, સામાજિક, કુદરતી સંસાધન અને વસ્તી અંગેની બાબતો-ગુજરાતના ખાસ સંદર્ભ સાથે
૨	ભારતનો સાંસ્કૃતિક વારસો - સાહિત્ય, કલા, ધર્મ અને સ્થાપત્યો- ગુજરાતના ખાસ સંદર્ભ સાથે
૩	ભારતનો ઇતિહાસ - ગુજરાતના ખાસ સંદર્ભ સાથે
૪	ભારતની અર્થવ્યવસ્થા અને આયોજન
૫	<u>ભારતીય રાજનીતિ અને ભારતનું બંધારણ :</u> (૧) આમુખ (૨) મૂળભૂત અધિકારો અને ફરજો (૩) રાજ્યનીતિના માર્ગદર્શક સિદ્ધાંતો (૪) સંસદની રચના (૫) રાષ્ટ્રપતિની સત્તા (૬) રાજપાલની સત્તા (૭) ન્યાયતંત્ર (૮) અનુસૂચિત જાતિ, અનુસૂચિત જનજાતિ અને સમાજના પછાત વર્ગો માટેની જોગવાઈઓ (૯) એટર્ની જનરલ (૧૦) નીતિ આયોગ (૧૧) પંચાયતી રાજ (૧૨) નાણાં પંચ (૧૩) બંધારણીય તથા વૈધાનિક સંસ્થાઓ- .ભારતનું ચૂંટણી પંચ, સંઘ લોક સેવા આયોગ, રાજ્ય લોક સેવા આયોગ, કોમ્પ્રોલર એન્ડ ઓડિટર જનરલ; કેન્દ્રીય સતર્કતા આયોગ, લોકપાલ તથા લોકાયુક્ત અને કેન્દ્રીય માહિતી આયોગ
૬	સામાન્ય બૌદ્ધિક ક્ષમતા કસોટી
૭	સામાન્ય વિજ્ઞાન, પર્યાવરણ અને ઇન્ફર્મેશન એન્ડ કોમ્યુનિકેશન ટેકનોલોજી
૮	ખેલ જગત સહિત રોજબરોજના પ્રાદેશિક, રાષ્ટ્રીય અને આંતરરાષ્ટ્રીય મહત્વના બનાવો

1. **Basic elements of physics and chemistry.**
2. **Engineering graphs and design, Engineering drawings.**
3. **Important Engineering Material and strength of material.**

4. **Elements of Mechanical Engineering:**

Introduction, Prime movers, Sources of energy, Types of prime movers, Force and mass, Pressure, Work, Power, Energy, Heat, Temperature, Units of heat, Specific heat capacity, Interchange of heat, Change of state, Mechanical equivalent of heat, Internal energy, Enthalpy, Entropy, Efficiency, Statements of Zeroth Law, First law and Second Law of Thermodynamics. Theory of Machines. Mechanics of Solids. Merchant force analysis, Taylor's tool life equation, machine ability and machine economics, rigid small and flexible automation, NC, CNC. Recent machining methods. Production planning and control, forecasting-moving average, exponential smoothing, Operation Scheduling, assembly line balancing, product development, Break even analysis, Capacity planning PERT and CPM. Control Operations. : Inventory control, ABC analysis, EOQ models, material requirement planning, job design, job standards, work measurement, quality management, quality analysis and control. IC Engines, Fuels and Combustion. Heat Transfer, Refrigeration and Air Conditioning. Turbo Machines and Power Plants. Workshop/manufacturing practices.

5. **Elements of Electrical Engineering:**

D.C. Circuits: - Effect of Temperature upon Resistance, Solutions of series, parallel in brief, star-delta combination of Resistances, KVL & KCL. AC Circuits, transformers, Electrical Machines, Power Converters.

Electrical Wiring: Connectors & switches, system of wiring, domestic wiring installation, sub circuits in domestic wiring, simple control circuit in domestic installation, industrial electrification.

Illumination: Types of lamps, fixtures & reflectors, illumination schemes for domestic, industrial & commercial premises, Lumen requirements for different categories.

Safety & protection: Safety, electric shock, first aid for electric shock other hazards of electrical laboratories & safety rules, use of multi meters, grounding, importance of grounding, equipment of grounding for safety. Circuit protection devices, fuses, MCB, ELCB & relays. Electrical Installations. Electricity and magnetism, Power electronics.

6. Elements of Automobile Engineering:

Conventional Manufacturing Process, Kinematics and Dynamics of Machine, Inversion: Four bar chain mechanism, Flexible power transmission system, Geometrical configuration, Gyroscope, cam profile, sound and vibrations and mechanical system. Balancing: Dynamic balancing, rotor balancing, etc.

Vehicle Dynamics: Understanding of vehicle dynamics, Dynamics load in moving vehicle, Tyres, Acceleration performance of vehicle, Braking System, Suspension system, steering system, road loads, and ride. Two and Three Wheel Technology Extended To Four Wheel Technology. Transmission System. Gear Study and Design of Different Types of Gears. Study of Gear Train. Frame and Body of the Vehicle. Electrical System and Instrumentations used in vehicles. Automotive System Design. Automobile Air Conditioning: Alternate Fuels and Engine. Transport Management and Laws, Total Quality Management (TQM).

7. Various instruments for measurement (i.e. temperature, pressure, flow etc.)

8. Elements of Computer and IT Engineering:

Introduction, Basic block Diagram and functions of various components of computer. Concept of Hardware and Software. Concept of basic types of software. Introduction to programming and programming languages. Flow charts and algorithms. Computer aided Design (CAD), Supervisory control and Data Acquisition (SCADA). Application of E-Governance and ICT in Industries.

9. Basic Electronics including Programmable Logic Controllers (PLC)

10. Entrepreneurship Development

Entrepreneurship and economic development: its importance, Role of entrepreneurship, entrepreneurial environment. Constitutional Support and Framework for Entrepreneurship: Institutions – All India, State Level and Fund-Based, Supporting Policies of Entrepreneurship, Industrial Policy, Fiscal Incentives, Measures for Promotion and Development of Entrepreneurs. Role and functions of Industrial Training Institutions (ITI) and Industrial Kaushalya Vardhan Kendra (IKVK). Organizational setup and functions of various departments/ divisions/ institutions/ boards under Ministry of Skill Development and Entrepreneurship, Ministry of Labour, Gujarat Government Labour and Employment Department. Various Government Schemes and Acts: Craftsman's Training Scheme, Role and functions of National Council for vocational training (NCVT) and Gujarat Council for vocational training (GCVT). Apprenticeship Training Scheme (ATS), Modular Employable Scheme, Objectives and Guidelines of Apprentice Act, 1961. Various schemes of Ministry of Skill Development and Entrepreneurship, Ministry of Labour, Gujarat Government Labour and Employment Department.

11. Current Trends and Recent developments in Skill training.