

<p style="text-align: center;">પ્રાથમિક કસોટીનો અભ્યાસક્રમ</p> <p style="text-align: center;">પ્રશ્નપત્ર-૧ (Part-I)</p> <p>જા.ક- ૧૧૬/૨૦૨૦-૨૧, સંયુક્ત કમિશનર (ગુજરાત ઔષધ સેવા), વર્ગ-૧</p> <p>માધ્યમ: ગુજરાતી <span style="float: right;">કુલ ગુણ : ૧૦૦</span></p>	
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	<p><u>ભારતીય રાજનીતિ અને ભારતનું બંધારણ:</u></p> <p>(૧) આમુખ</p> <p>(૨) મૂળભૂત અધિકારો અને ફરજો</p> <p>(૩) રાજ્યનીતિના માર્ગદર્શક સિદ્ધાંતો</p> <p>(૪) સંસદની રચના</p> <p>(૫) રાષ્ટ્રપતિની સત્તા</p> <p>(૬) રાજ્યપાલની સત્તા</p> <p>(૭) ન્યાયતંત્ર</p> <p>(૮) અનુસૂચિત જાતિ, અનુસૂચિત જનજાતિ અને સમાજના પછાત વર્ગો માટેની જોગવાઈઓ</p> <p>(૯) એટર્ની જનરલ</p> <p>(૧૦) નીતિ આયોગ</p> <p>(૧૧) પંચાયતી રાજ</p> <p>(૧૨) નાણા પંચ</p> <p>(૧૩) બંધારણીય તથા વૈધનિકસંસ્થાઓ- ભારતનું ચૂંટણી પંચ, સંઘ લોક સેવા આયોગ, રાજ્ય લોક સેવા આયોગ, કોમ્પ્ટ્રોલર એન્ડ ઓડિટર જનરલ; કેન્દ્રીયસતર્કતા આયોગ, લોકપાલ તથા લોકાયુક્ત અને કેન્દ્રીય માહિતી આયોગ</p>
૬	સામાન્ય બૌદ્ધિક ક્ષમતા કસોટી
૭	સામાન્ય વિજ્ઞાન, પર્યાવરણ અને ઈન્ફર્મેશન એન્ડ કોમ્યુનિકેશન ટેકનોલોજી
૮	ખેલ જગત સહિત રોજબરોજના પ્રાદેશિક, રાષ્ટ્રીય અને આંતરરાષ્ટ્રીય મહત્વના બનાવો

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Syllabus of Preliminary Test  
Paper-1 (part-I)

**Advt- 116/2020-21, Joint Commissioner (Gujarat Drugs Service), Class-1**

Medium: Gujarati

Total Marks- 100

1	Geography of India-Physical, Economic, Social, Natural Resources and population related topics- with special reference to Gujarat
2	Cultural heritage of India-Literature, Art, Religion and Architecture- with special reference to Gujarat
3	History of India with special reference to Gujarat
4	Indian Economy and Planning
5	<u>Indian Polity and the Constitution of India:</u> (1) Preamble (2) Fundamental Rights and Fundamental Duties (3) Directive Principles of State Policy (4) Composition of Parliament (5) Powers of the President of India (6) Powers of Governor (7) Judiciary (8) Provisions for Scheduled Castes, Scheduled Tribes and backward classes of the society (9) Attorney General (10) NITI Aayog (11) Panchayati Raj Institutions (12) Finance Commission (13) Constitutional and Statutory Bodies: Election Commission of India, Union Public Service Commission, State Public Service Commission, Comptroller and Auditor General; Central Vigilance Commission, Lokpal and Lokayukta, Central Information Commission
6	General Mental Ability
7	General Science, Environment and Information & Communication Technology
8	Daily events of Regional, National and International Importance including Sports

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**Syllabus for the Preliminary Test for the recruitment of the Post of  
Joint Commissioner, Class-I  
(Gujarat Drugs Service)  
Advt No- 116/2020-21**

**Part-2**

**Total questions: 200**

**Medium: English**

**Total Marks: 200**

**1. Physical chemistry**

- Composition and physical states of matter
- Colligative properties
- Thermodynamics
- Refractive index
- Solutions
- Electrochemistry
- Ionic equilibrium
- Kinetics

**2. Physical pharmacy**

- Matter, properties of matter
- Micromeritics and powder rheology
- Surface and interfacial phenomenon
- Viscosity and rheology
- Dispersion systems
- Complexation
- Buffer
- Solubility

**3. Organic chemistry**

- General principles
- Different classes of compounds
- Protection and deprotection of groups
- Aromaticity and chemistry of aromatic compounds
- Different aromatic classes of compounds
- Polycyclic aromatic hydrocarbons
- Carbonyl chemistry
- Heterocyclic chemistry
- Bridged rings
- Kinetic and thermodynamic control
- Stereochemistry
- Carbohydrates
- Amino acids and proteins
- Pericyclic reactions

**4. Pharmaceutical chemistry**

- Pharmaceutical inorganic chemistry
- Medicinal chemistry

**5. Pharmaceutics**

- Pharmacy profession and introduction to pharmaceuticals
- Introduction to dosage form
- Suspensions
- Emulsions
- Suppositories

- Sources of drug information
- Allopathic dosage form
- Crude extract
- Allergenic extract
- Biological products
- Pharmaceutical plant, location, layout
- Dosage form necessities and additives
- Powders
- Capsules
- Tablets
- Parenterals : product requiring sterile packaging
- Semisolids
- Liquids(solutions, syrups, elixirs, spirits, aromatic water, liquid for external uses)
- Pharmaceutical aerosols
- Ophthalmic preparations
- Preformulations
- Stability of formulated products
- Prolonged action pharmaceuticals
- Novel drug delivery system
- GMP and validation
- Packaging materials
- Cosmetics
- Pilot plant scale-up techniques

## 6. **Pharmacology**

- General pharmacology
- Neurohumoral transmission in autonomic and central nervous system
- Pharmacology of peripheral nervous system
- Pharmacology of central nervous system
- Pharmacology of cardiovascular system
- Drugs acting on urinary system
- Drugs acting on respiratory system
- Pharmacology of endocrine system
- Chemotherapy
- Autacoids and their antagonists
- Pharmacology of drug acting on the gastrointestinal tract
- Chronopharmacology
- Immunopharmacology
- Vitamins and minerals
- Principles of toxicology

## 7. **Pharmacognosy**

- Introductory pharmacognosy
- Classification of crude drugs
- Factors influencing quality of crude drugs
- Techniques in microscopy
- Introduction to phytoconstituents
- Principles of plant classification
- Pharmaceutical aids
- Animal products
- Carbohydrates and lipids
- Tannins
- Volatile oils
- Resinous drugs
- Glycosides
- Alkaloids
- Extraction and isolation techniques
- Phytopharmaceuticals
- Quality control and standardization

- Plant products
- Plants based industries and research institutes in India
- Toxic drugs
- Enzymes
- Natural pesticides and insecticides
- Adulteration and evaluation of crude drugs
- Quantitative microscopy
- Biogenetic pathways
- of herbal drugs
- Herbal formulations
- Worldwide trade of crude drugs and volatile oils
- Herbal cosmetics
- Traditional herbal drugs
- Patents
- Ayurvedic system of medicine
- Homeopathic system of medicine

## 8. **Pharmaceutical analysis**

- Importance of quality control in pharmacy
- Acid-base titrations
- Non-aqueous titrations
- Oxidation-reduction titrations
- Precipitation titrations
- Complexometric titrations
- Gravimetry
- Extraction techniques
- Potentiometry
- Miscellaneous methods of analysis
- Calibration
- General principles of spectroscopy
- Ultraviolet-visible spectrometry
- Spectrofluorimetry
- Flame photometry and atomic absorption spectrometry
- Infrared spectrometry
- Proton nuclear magnetic resonance spectrometry
- Mass spectrometry
- Polarography
- Nephelometry and turbidimetry
- Chromatography

## 9. **Biochemistry**

- Cell
- Carbohydrates
- Proteins
- Lipids
- Vitamins
- Biological oxidations and reductions
- Enzymes
- Nucleic acids
- Hereditary diseases

## 10. **Biotechnology**

- Plant cell and tissue culture
- Animal cell culture
- Fermentation technology and industrial microbiology
- Recombinant DNA technology
- Process and applications
- Biotechnology derived products

## 11. **Microbiology**

- Introduction to microbiology
- Aseptic technique

- Microscopy and staining technique
- Biology of microorganisms
- Fungi and viruses
- Sterilization and disinfection
- Microbial spoilage
- Vaccines and sera
- Microbial assay

## 12. Pathophysiology

- Basic principles of cell injury and adaptation
- Basic mechanisms of inflammation and repair
- Disorders of fluid, electrolyte and acid-base balance
- Disorders of homeostasis: white blood cells, lymphoid tissues, and red blood cells related diseases
- Immunopathology including amyloidosis
- Infectious diseases
- Neoplastic diseases
- Pathophysiology of common diseases

## 13. Biopharmaceutics and pharmacokinetics

- Bio-pharmaceutics
- Bio-availability and bio-equivalence
- Biopharmaceutical statistics

## 14. Clinical pharmacy and therapeutics

## 15. Human anatomy and physiology

- Cell physiology
- The blood
- Gastrointestinal tract
- Respiratory system
- Autonomic nervous system
- Sense organs
- Skeletal system
- Central nervous system
- Urinary system
- Endocrine glands
- Reproductive system
- Cardiovascular system
- Lymphatic system

## 16. Pharmaceutical engineering

- Fluid flow
- Heat transfer
- Evaporation
- Distillation
- Drying
- Extraction
- Mixing
- Crystallization
- Size reduction and size separation
- Filtration and centrifugation
- Dehumidification and humidity control
- Refrigeration and air conditioning
- Material of constructions
- Automated process control systems
- Industrial hazards and safety precautions

## **17. Pharmaceutical management**

- Introduction to management
- Planning and forecasting
- Organization
- Research management
- Inventory management
- Communication
- Marketing research
- Leadership and motivation
- Human resource and development (HRD)
- Gatt
- World trade organization (WTO) and trade-related intellectual property rights (TRIPS)
- Standard institutions and regulatory authorities

## **18. Pharmaceutical jurisprudence :**

- Historical background Drug legislation in India, Code of Ethics for Pharmacists.
- The Pharmacy Act 1948
- Drugs and Cosmetics Act 1940, Rules 1945
- Narcotic Drugs and Psychotropic Substances Act 1985 and Rules thereunder.
- Drugs and Magic Remedies (Objectionable Advertisements) Act 1954.
- Medicinal and Toilet Preparations (Excise Duties) Act 1955, Rules 1976.
- Introduction to Intellectual Property Rights and Indian Patent Act 1970.
- An Introduction to Standard Institutions and Regulatory Authorities such as BIS, ASTM, ISO, TGA, USFDA, MHRA, ICH, WHO.
- Prevention of Food Adulteration Act 1954 and Rules

## **19. Dispensing and hospital pharmacy**

## **20. Current Trends and Recent Advancement in the Relevant Field**