

પ્રાથમિક કસોટીનો અભ્યાસક્રમ	
ભાગ-૧	
માધ્યમ: ગુજરાતી	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)રાજ્યપાલની સત્તા (૭)ન્યાયતંત્ર (૮)અનુસૂચિત જાતિ, અનુસૂચિત જનજાતિ અને સમાજના પછાત વર્ગો માટેની જોગવાઈઓ (૯)એટર્ની જનરલ (૧૦)નીતિ આયોગ (૧૧) પંચાયતી રાજ (૧૨) નાણા પંચ (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
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

Syllabus of Preliminary Test
Part-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 Examination for the recruitment of
Dental Surgeon, class-II (Advt No.70/2018-19) Part- II**

Marks – 200

Questions - 200

Medium - English

1. General Human anatomy including Embryology, Osteology and Histology.

Introduction, Detailed Anatomy and osteology of Head and Neck, Gross Anatomy of Thorax, Abdomen and Extremities, Embryology of Head, Neck with emphasis on development of face, jaws, tongue, palates, salivary glands, pharyngeal arches and pouches lymphatic and blood vessel system, G.I system, Par nasal air sinuses, Gross Anatomy of the brain.

2. Human Physiology:

General Physiology, Blood, Muscle and Nerve, Digestive system, Excretory system, Body temperature and Functions of skin, Endocrinology, Reproduction, Cardio vascular system, Respiratory system, Central nervous system, Special senses.

3. Biochemistry and Nutrition:

Chemistry of Bioorganic molecules, Macronutrients and digestion, Micronutrients, Energy Metabolism, Special aspects of Metabolism, Biochemical genetics and Protein synthesis, Enzyme and Metabolic regulation, Structural Components and Blood proteins, Medical Biochemistry.

4. Dental Anatomy, Embryology and Oral histology:

Tooth Morphology, Oral embryology, Oral Histology, Oral Physiology

5. General Pathology:

Introduction to Pathology, Terminologies, cell in health, normal cell structure, cellular functions, Etiology and Pathogenesis of Disease, Inflammation, Healing.

6. Microbiology:

History, Introduction, Scope, Aims and Objectives, Morphology, Physiology of bacteria, Detail account of Sterilization and Disinfection, Brief account of Culture media and Culture techniques, Basic knowledge of selection, collection, transport, processing of clinical, Specimen and identification of bacteria, Bacterial Genetics and Drug Resistance in bacteria, Immunology, Systematic bacteriology, Virology, Mycology, Parasitology.

7. General and Dental Pharmacology and Therapeutics:

General Pharmacology, Anti-septic's, astringents, obtundents, mummifying agents, bleaching agents, styptics, disclosing agents, dentifrices, mouth washes, caries and fluorides, Pharmacotherapy of common oral conditions in dentistry.

8. Dental Materials:

Structure of matter and Principles of Adhesion, Important Physical properties applicable to Dental materials, Biological consideration in use of Dental materials, Gypsum and Gypsum products, Impression materials used in Dentistry, Synthetic resins used in Dentistry, Metal and Alloys, Dental waxes including inlay casting wax, Dental casting investments, Soldering, Brazing and Welding, Dental cements, Dental ceramics, Abrasion and polishing agents, Die and counter die materials including electroforming and electro polishing, Dental implants, Mechanics of cutting.

9. Oral Pathology and Oral Microbiology:

Developmental disturbances of teeth, jaws and soft tissues of oral & perioral region, Dental Caries, Pulp & Periapical Pathology & Osteomyelitis, Periodontal Diseases, Microbial infections of oral soft tissues, Common non-inflammatory diseases, involving the jaws, Diseases of TM Joint, Cysts of the Oral & Perioral region, Tumors of the Oral Cavity, Traumatic, Reactive & Regressive lesions of Oral Cavity, Non neoplastic Salivary Gland Diseases, Systemic Diseases involving Oral cavity, Mucocutaneous Lesions, Diseases of the Nerves, Pigmentation of -Oral & Perioral region & Discoloration of teeth, Diseases of Maxillary Sinus.

10. General Medicine:

Infections, G.I.T, CVS, RS, Hematology, Renal system, Nutrition, CNS, Endocrines, Critical care.

11. General Surgery:

History of surgery, General principles of surgery, Wounds, Inflammation, Infections, Shock and hemorrhage, Tumors, ulcers, cysts, sinus and fistulae, Diseases of lymphatic system, Diseases of the oral cavity, Diseases of larynx, nasopharynx, Nervous system, Fractures, Principles of operative surgery, Anomalies of development of face, Diseases of thyroid and parathyroid, Swellings of the jaw, biopsy.

12. Conservative Dentistry and Endodontic:

Nomenclature of Dentition, Tooth numbering systems A.D.A. Zsigmondy Palmer and F.D.I. systems, Principles of cavity preparation, Dental caries, Treatment planning for operative Dentistry, Gnathological concepts of restoration, Armamentarium for cavity preparation, Control of operating field, Amalgam restoration, Pulp protection, Anterior restorations, Direct filling gold restorations, Preventive measures in restorative practice, Temporisation interim Restoration, Pin Amalgam Restoration indication

and contra indication, Management of deep carious lesions, Indirect and direct pulp capping, Non carious destruction of tooth structures diagnosis and clinical management, Hyper sensitive dentine and its management, Cast restorations, Die materials and preparation of dies, gingival tissue management for cast restoration and impression procedures, recent cavity modification amalgam restoration, differences between amalgam and inlay cavity preparation with note -on all the types of bevels used for cast restoration, control of pain during operative procedures, treatment planning for operative, dentistry detailed clinical and radiographic, examination, vitality tests, diagnosis and treatment planning and preparation of case sheet, applied dental materials, **Endodontics:** introduction, definition, scope and future of endodontics, clinical diagnostic methods, emergency endodontic procedures, pulpal diseases causes, types and treatment, periapical diseases: acute periapical abscess, acute periodontal abscess phoenix abscess, chronic alveolar abscess granuloma cysts condensing osteitis, external resorption, vital pulp therapy: indirect and direct pulp capping, pulpotomy, different types and medicaments used, apexogenesis and apexification or problems of open apex, rationale of endodontic treatment case selection indication and contraindications for root canal treatments, principles of root canal treatment, mouth preparation, root canal instruments, hand instruments, power driven instruments, standardization, colorcoding principle of using endodontic instruments, sterilization of root canal instruments and materials rubber dam application, anatomy of the pulp cavity, root canals apical foramen, anomalies of pulp cavities access cavity preparation of anterior and premolar teeth, preparation of root canal space, determination of working length, cleaning and shaping of root canals, irrigating solution, chemical aids to instrumentation, disinfection of root canal space intracanal medicaments, poly antibiotic paste gross marls paste, mummifying agents, outline of root canal treatment, bacteriological examinations, culture methods, problems during cleaning and shaping of

root canal spaces, perforation and its management, broken instruments and its management, management of single and double curved root canals, methods of cleaning and shaping like step-back crown down and conventional methods, obturation of the root canal system, requirements of an ideal root canal filling material obturation methods using gutta percha healing after endodontic treatment, failures in endodontics, root canal sealers, ideal properties classification, manipulation of root canal sealers, post endodontic restoration fabrication and components of post core preparation, smear layer and its importance in endodontics and conservative treatment, discolored teeth and its management, bleaching agents, vital and nonvital bleaching methods, traumatised teeth classification of fractured teeth, management of fractured tooth and root, luxated teeth and its management, endodontic surgeries indication and contraindications, preoperative preparation. pre medication surgical instruments and techniques apicectomy, retrograde filling, postoperative sequale trephination hemisection, radisectomy techniques of tooth reimplantation (both intentional and accidental) endodontic implants, root resorption, emergency endodontic procedures, lasers in conservative endodontics (introduction only) practice management.

13. Oral and Maxillofacial Surgery:

Introduction, definition, scope, aims and objectives, Diagnosis in oral surgery, Principles of infection control and cross-infection control with particular reference to HIV/AIDS and Hepatitis, Principles of Oral Surgery, Exodontia: General considerations, Impacted teeth, Pre-prosthetic Surgery, Disorders of T.M. Joint, Infections of the Oral cavity, Benign cystic lesions of the jaws, Tumors of the Oral cavity, Fractures of the jaws, Salivary gland diseases, Jaw deformities, Neurological disorders, Cleft Lip and Palate, Medical Emergencies 'in dental practice, Emergency drugs, Intra muscular I.V. Injections, Oral Implant ology.

14. Oral medicine and Radiology:

Oral medicine and Diagnostic methods, Diagnosis, Differential diagnosis, Oral medicine and Therapeutics, Behavioural sciences.

15. Orthodontics and Dental Orthopaedics:

Introduction, Definition, Historical Background, Aims and Objectives of Orthodontics and need for Orthodontic care, Growth and Development: In General, Morphologic Development Of Craniofacial Structures, Functional .Development of Dental Arches and Occlusion, Clinical Application of Growth and Development, Malocclusion - In General, Classification of Malocclusion, Diagnosis And Diagnostic Aids, General Principles In Orthodontic Treatment Planning Of Dental And Skeletal Malocclusions, Anchorage in Orthodontics - Definition, Classification, Types and Stability Of Anchorage, Biomechanical Principles In Orthodontic Tooth Movement, Preventive Orthodontics, Interceptive Orthodontics, Corrective Orthodontics, Orthodontic Appliances.

16. Paediatric and Preventive Dentistry:

Introduction to paedodontics & preventive dentistry, growth & development, development of occlusion from birth through adolescence, dental anatomy and histology, dental radiology related to paedodontics, oral surgical procedures in children, dental caries, gingival & periodontal diseases in children, child psychology, behaviour management, paediatric operative dentistry, paediatric endodontics, traumatic injuries in children, preventive & interceptive orthodontics, oral habits in children, dental care of children with special needs, congenital abnormalities in children, dental emergencies in children and their management, dental materials used in paediatric dentistry, preventive dentistry, dental health education & school dental health programme, fluorides, case history recording, setting up of paedodontic clinic.

17. Public Health Dentistry:

Introduction to Dentistry: Definition of Dentistry, History of dentistry. Scope, aims and objectives of Dentistry, Public Health, Dental Public Health, Research Methodology and Dental Statistics.

18. Periodontology:

Introduction: Definition of Periodontology, Periodontics, Periodontia, Brief historical background, Scope of Periodontics, Development of periodontal tissues, micro-structural anatomy and biology of periodontal tissues in detail Gingiva. Junctional epithelium in detail, Epithelial-Mesenchymal interaction, Periodontal ligament, Cementum, Alveolar bone, Defensive mechanisms in the oral cavity: Role of epithelium, Gingival fluid, Saliva and other defensive mechanisms in the oral environment, Age changes in teeth and periodontal structures and their periodontal structures association with periodontal diseases and their significance in Geriatric dentistry Classification of periodontal diseases, Gingival diseases Epidemiology of periodontal diseases, Extension of inflammation from gingiva, Pocket, Etiology, Risk factors Definition. Risk factors for periodontal diseases, Host response, Periodontitis, Diagnosis, Prognosis, Treatment, Periodontal therapy, Pocket eradication procedures, Osseous Surgery, Mucogingival surgery & periodontal plastic surgeries, Splints, Hypersensitivity, Implants, Maintenance phase, Pharmacotherapy, Periodontal management of medically compromised patients, Inter-disciplinary care, Systemic effects of periodontal diseases in brief, Infection control protocol.

19. Prosthetics and Crown and Bridge

- **Complete Dentures** : Introduction & scope, Applied anatomy, Examination, diagnosis treatment planning and desirability prognosis, Principles of retentions & stability, Principles and techniques of impression making, Preparation of casts, trays and temporary denture-

bases, Jaw-relations and methods of registration, Artificial teeth their selection and arrangements and esthetics, Articulators and face bows, Occlusion and articulation in complete denture, Trying in of complete dentures, Processing and finishing of dentures, Correction of occlusal discrepancies, Delivery and adjustments of complete dentures, Sequelae of ill-fitting dentures, Repair, rebasing and relining, Immediate dentures, Implant dentures.

- **Removable Partial Dentures:** Introduction and scope, Classification, Examination, diagnosis and treatment planning, Components of removable partial dentures & their function, Surveyors, Mouth preparations for partial dentures, Impression procedures, Designs of removable partial dentures & its associated problems, Fabrication of cast metal frame work, Jaw relation record, Selection and arrangement of teeth, Acrylic partial denture, trying in of partial dentures, Processing, finishing, delivery and maintenance of partial dentures, Immediate partial dentures.
- **Elements of Crown and Bridge Prosthesis:** Introduction Definitions, Indication and contra-indications, Examination, diagnosis & treatment planning, Selection and choice of abutment teeth, Principles of tooth reduction, Indication, contraindications, and procedures of preparation of abutment teeth for receiving various types of retainers, Temporary protections of a prepared tooth, Gingival retractions and Impression procedures, Construction of days and working models, direct and indirect technique, Technique of fabrication of retainers, Selection & Fabrication of pontics, Connectors stress-breakers and assembly of fixed bridges, Finishing cementing and maintenance of crowns and bridges.

20. **Aesthetic Dentistry:**

Introduction and scope of aesthetic dentistry, Anatomy & physiology of smile, Role of the color in esthetic dentistry, Simple procedures (rounding of central incisors to enhance esthetic appearance), Bleaching of teeth,

Veneers with various materials, Preventive and interceptive aesthetics, Ceramics, Simple gingival contouring to enhance the appearance, Simple clinical procedures for BDS students.

21. Forensic Odontology

Introduction to forensic dentistry, Overview of forensic medicine and toxicology, Dental identification, Maintaining dental records, Age estimation, Sex differentiation, Ethnic variations ('racial' differences) in tooth morphology, Bite mark procedures, Dental DNA methods.

22. Oral Implantology

History of implants, their design & surface characteristics and osseointegration. Scope of oral & maxillofacial implantology & terminologies. A brief introduction to various implant systems in practice. Bone biology, Morphology, Classification of bone and its relevance to implant treatment and bone augmentation materials. Soft tissue considerations in implant dentistry. Diagnosis & treatment planning in implant dentistry. Pre surgical preparation of patient. Implant installation & armamentarium for the Branemark system as a role model. First stage surgery-Mandible-Maxilla. Healing period & second stage surgery. Management of surgical complications & failures. General considerations in prosthodontic reconstruction

& Bio mechanics. Prosthodontic components of the Branemark system as a role model. Impression procedures & Preparation of master cast. Jaw relation records and construction of suprastructure with special emphasis on occlusion for osseointegrated prosthesis. Management of prosthodontic complications & failures. Recall & maintenance phase.

23. Current Trends and recent advancements in the Field of Dental Surgery