

SYLLABUS FOR COMPUTER BASED RECRUITMENT TEST (CBRT)
FOR THE POST OF ASSISTANT PHARMACEUTICAL CHEMIST
UNDER
GOA MEDICAL COLLEGE
(Advt No 04 Year 2022)

- I. General English including Grammar - 10 marks**
- II. General Knowledge, Current Affairs and Events of National and International Importance - 10 marks**
- III. Logical Reasoning and Analytical Ability - 25 marks**
- IV. Core: - 30 marks**

1. Solution Acids, Bases and Buffers Ionic Equilibria

Methods of expressing the concentration- Molality, Molarity, Normality etc. Colligative properties, Molecular Mass determination using colligative properties, introduction to buffers Strong Electrolytes and weak electrolytes, dissociation constant pH, Sorensen's pH scale, pH determination(glass electrode) Applications of buffers, buffer equation (Henderson – Hasselbalch equation), buffer capacity, buffers in pharmaceutical and biological systems

2. Volumetric Analysis

Introduction, Tools of Volumetric Analysis, Performing a titration: Acid- Base Titrations, theory of Acid base indicators and Calculations, Oxidation- Reduction Titrations and Calculations Chelates and Complexo-Metric Titrations: EDTA titrations, indicators used, importance of volumetric analysis.

3. Errors

Sources of errors, types of errors, methods of minimizing errors, accuracy, precision and significant figures.

4. Introduction to drug and dosage forms

Definition of drug and new drug as per regulatory aspects, sources of drugs. Concept of dosage form, rationale for development of dosage form, classification of the basis of nature, routes of administration.

5. Modern Techniques in Pharmaceutical Analysis

Atomic absorption spectroscopy: Basic principles, instrumentation, applications, Thermal analysis: Thermo-gravimetric analysis (TGA), Differential Thermal Analysis (DTA), Differential Scanning Calorimetry(DSC), Radiochemical Analysis Importance of Radio Isotope in medicines, Instrumentation and analysis methods, Radio isotropic analysis.

Note:

Duration for C.B.R.T : 90 Minutes

Maximum Marks for C.B.R.T : 75 Marks