

**Approved Content Weightages for Drug Regulatory Authority  
Government of Pakistan  
Adv.No.01/2024**

S.no	Title	Criteria and Subject Division	No of MCQ's	
01-	<b>Assistant Director (Technical Cadre) (Pharmaceutical Evaluation / Drugs Licensing / Quality Assurance / Health &amp; OTC / Controlled Drugs / Pharmacy Services / Biological Drugs / Medical Devices) (RO-12)</b>	<b>As per the advertisement</b>	<b>100 MCQs</b>	
		Verbal Reasoning	10%	
		Analytical Reasoning	10%	
		DRAP Act 2012, Drugs Act 1976 and Rules framed there under: <ul style="list-style-type: none"> <li>• The Drugs Licensing, Registration &amp; Advertising Rules, 1976</li> <li>• The Drugs (Appellate Board) Rules, 1976</li> <li>• The Drugs (Import &amp; Export) Rules, 1976</li> <li>• The Drugs (Federal Inspectors, Federal Drug Laboratory and Federal Government Analysis) Rules, 1976</li> <li>• Drugs (Specifications) Rules, 1978</li> <li>• The Drug Research Rules, 1978</li> <li>• The Alternative Medicines and Health Products (Enlistment) Rules, 2014.</li> <li>• The Medical Device Rules, 2017</li> <li>• The Bio Study Rules, 2017</li> <li>• The Ethical Marketing to Healthcare Professional Rules, 2021</li> <li>• The Pharmacovigilance Rules, 2022</li> <li>• Control of Narcotic Substances Act, 1997</li> <li>• UN Conventions on Controlled Substances</li> </ul>	30%	
		<b>Subject Related:50%</b>		
		Pharmacology, Pharmacy Practice, Pharmaceutics / Drug Development	15%	
		Pharmaceutical Chemistry, Analytical Chemistry, Pharmaceutical Microbiology	10%	
		Pharmacognosy, Phytochemistry, Principles of Homeo, Alternative Medicines Fundamentals	05%	
		Guidelines: <ul style="list-style-type: none"> <li>• ICH (Quality &amp; Safety)</li> <li>• WHO (Production, Quality Control, Quality Assurance)</li> </ul>	20%	

02-	<b>Assistant Director (Technical Subject Specialist-Chemist) (RO-12)</b>	<b>As per the advertisement</b>	<b>100 MCQs</b>	
		Verbal Reasoning	10%	
		Analytical Reasoning	10%	
		<ul style="list-style-type: none"> <li>• DRAP Act 2012, Drugs Act 1976:</li> <li>• The Drugs Licensing, Registration &amp; Advertising Rules, 1976</li> <li>• The Drugs (Federal Inspectors, Federal Drug Laboratory and Federal Government Analysis) Rules, 1976</li> <li>• Drugs (Specifications) Rules, 1978</li> <li>• The Ethical Marketing to Healthcare Professional Rules, 2021</li> </ul>	10%	
		<b>Subject Related:70%</b>		
		<b><u>Pharmaceutical Analytical Chemistry</u></b>		
		<ul style="list-style-type: none"> <li>• Fundamentals of bases, acids, solubility, polarity, partition, and stereochemistry;</li> <li>• Chemical analysis of pharmaceutical ingredient</li> <li>• Chemical analysis of pharmaceutical preparations</li> <li>• Titration</li> <li>• Introduction to spectroscopic methods</li> <li>• UV-Vis spectrophotometry</li> <li>• IR Spectrophotometry</li> <li>• Atomic Spectrometry</li> <li>• Separation principle in liquid chromatography</li> <li>• Gas Chromatography</li> <li>• Mass spectrometry</li> </ul>	40%	
		<b>WHO Guidelines</b> WHO TRS 1052 Annex 4, WHO Good Practices and Pharmaceutical Quality Control Laboratories	15%	
<ul style="list-style-type: none"> <li>• (11) USP Reference standards</li> <li>• (621) Chromatography</li> <li>• (711) Dissolution</li> <li>• (905) Uniformity of dosage units</li> <li>• (1224) Transfer of analytical procedures</li> <li>• (1092) The Dissolution Procedure: Development and Validation</li> </ul>	15%			
03-	<b>Assistant Director (Technical Subject Specialist- Microbiologist) (RO-12)</b>	<b>As per the advertisement</b>	<b>100 MCQs</b>	
		Verbal Reasoning	10%	
		Analytical Reasoning	10%	
		<ul style="list-style-type: none"> <li>• DRAP Act 2012, Drugs Act 1976</li> <li>• The Drugs Licensing, Registration &amp; Advertising Rules, 1976</li> </ul>	10%	

		<ul style="list-style-type: none"> <li>The Drugs (Federal Inspectors, Federal Drug Laboratory and Federal Government Analysis) Rules, 1976</li> <li>Drugs (Specifications) Rules, 1978</li> <li>The Ethical Marketing to Healthcare Professional Rules, 2021</li> </ul>		
		<b>Subject Related: 70%</b>		
		<u><b>Pharmaceutical Microbiology</b></u> <ul style="list-style-type: none"> <li>Laboratory evaluation of antimicrobial agents</li> <li>Chemical disinfectants, antiseptics and preservatives</li> <li>Sterilization procedures and sterility assurance</li> <li>Sterile pharmaceutical products</li> <li>The manufacturer and quality control of immunological products</li> </ul>	40%	
		<b>WHO Guidelines</b> <ul style="list-style-type: none"> <li>WHO TRS 961 Annex 2, WHO practices for pharmaceutical microbiology laboratories</li> <li>WHO TRS 1052 Annex 4, WHO Good practices and pharmaceutical quality control laboratories.</li> </ul>	15%	
		<ul style="list-style-type: none"> <li>(61) Microbiological examination of non-sterile products: microbial enumeration tests</li> <li>(62) Microbiological examination of Non-sterile products: tests for specified microorganisms.</li> <li>(71) Sterility tests</li> <li>(81) Antibiotics – microbial assays</li> <li>(85) Bacterial endotoxins test</li> </ul>	15%	
<b>04-</b>	<b>Assistant Director (Technical Cadre)(Subject Specialist-Bio-Medical Engineer) (RO-12)</b>	<b>As per the advertisement</b>		<b>100 MCQs</b>
		Verbal Reasoning		10%
		Analytical Reasoning		10%
		<ul style="list-style-type: none"> <li>DRAP Act 2012, Drugs Act 1976</li> <li>The Drugs (Federal Inspectors, Federal Drug Laboratory and Federal Government Analysis) Rules, 1976</li> <li>The Ethical Marketing to Healthcare Professional Rules, 2021</li> </ul>	10%	
		<b>Subject Related:70%</b>		
		<u><b>Non-invasive instrumentation and measurement in medical diagnosis</b></u> <ul style="list-style-type: none"> <li>Measurement of electrical Potentials and Magnetic Fields from the Body Surface</li> <li>Non-invasive measurement of blood pressure</li> <li>Ocular Tonometry</li> </ul>	40%	

		<ul style="list-style-type: none"> <li>• Non-invasive tests using ultrasound (excluding imaging)</li> <li>• Innovations in non-invasive instrumentation and measurements</li> </ul>		
		<p><b><u>Medical Instrumentation: Application and Design</u></b></p> <ul style="list-style-type: none"> <li>• Clinical laboratory instrumentation</li> <li>• Chemical biosensors</li> <li>• Therapeutic and prosthetic devices</li> <li>• Measurement of flow and volume of blood</li> <li>• Blood pressure and sound</li> <li>• Bio-potential amplifiers</li> </ul>	10%	
		WHO TRS 1019 Annex 3, Good manufacturing practise: guidelines on validation	10%	
		Medical Devices Rules 2017	10%	
05-	Assistant Director (Technical Subject Specialist-Biotechnologist) (RO-12)	<b>As per the advertisement</b>	<b>100 MCQs</b>	
		Verbal Reasoning	10%	
		Analytical Reasoning	10%	
		<ul style="list-style-type: none"> <li>• DRAP Act 2012, Drugs Act 1976</li> <li>• The Drugs Licensing, Registration &amp; Advertising Rules, 1976</li> <li>• The Bio Study Rules, 2017</li> <li>• The Ethical Marketing to Healthcare Professional Rules, 2021</li> <li>• The Pharmacovigilance Rules, 2022</li> </ul>	10%	
		<b>Subject Related:70%</b>		
		Cell Biology/ Molecular Biology (CELL BIOLOGY Introduction to cell theory including historical perspective; chemical constituents of the cell and their function, cell organelles including ribosomes, endoplasmic reticulum, lysosome, golgi apparatus, mitochondria, peroxisome, vacuole, chloroplast, structure and their functions, composition and structure of cell membranes; membrane receptors and transport mechanisms; nucleus; structure and function of chromosomes; cell cycle, mitosis and meiosis; cell movement, structure and function of cytoskeleton, centriole, cilia and flagella)	10%	
		Organic Chemistry (Introduction to Organic Chemistry, Chemical Bonding and Properties of Organic Molecules, Classes and Nomenclature of Organic Compounds, Functional Group Chemistry)	10%	
<b>Fundamentals of Genetics</b> (Mendelian Genetics, principle of segregation, monohybrid crosses, dominance,	10%			

	<p>recessiveness, codominance, semidominance, principle of independent assortment, dihybrid and trihybrid ratios, gene interaction, epistasis, multiple alleles, ABO blood type alleles in humans, Rh factor alleles in humans, probability in Mendelian inheritance, structure of chromosomes and Genes, function of DNA and RNA, classes of RNA, DNA as storage of Genetic information, experimental evidence that DNA is genetic material; physical and chemical structure of DNA, Difference between Prokaryotic and Eukaryotic Genetic material, sex determination and differentiation, sex-linked traits, sex anomalies, linkage and crossing over)</p>	
	<p><b>Molecular Biology</b> (Overview of Molecular Biology, Macromolecules, chemical structures of the major classes of Macromolecules: Proteins, Nucleic Acids, Polysaccharides, Nucleic Acids, DNA Helix, Form of DNA Helix, Factor that determine structure of DNA, properties of Genetic Material (storage and Transmission of Genetic information by DNA). Transmission of information from parent to progeny, chemical stability of DNA, Ability of DNA to change, DNA Replication, Enzymology of DNA Replication. Events in the Replication Fork, Initiation of synthesis of Leading and lagging strands, Okazaki fragments, importance of 3' <math>\rightarrow</math> 5' and 5' <math>\rightarrow</math> 3' Exonuclease activities of DNA polymerase, Rolling circular Replication, Loop Rolling circular Replication, Difference between Prokaryotic and Eukaryotic Replication)</p>	10%
	<p><b>Biochemistry</b> (Introduction to metabolism and basic aspects of bioenergetics and biochemical thermodynamics (endergonic and exergonic reactions); phosphoryl group transfer and ATP production; metabolism, oxidation-reduction; carbohydrate metabolism and regulation (glycolysis, glycogenolysis; gluconeogenesis; pentose phosphate pathway); citric acid cycle (reactions, energetics and control), electron transport chain, oxidative phosphorylation, shuttle mechanisms (glycerolphosphate shunt), lipid metabolism (energy yield from fatty acid oxidation, ketone bodies, acyl glycerol, compound lipids, cholesterol); Calvin Cycle; metabolism of nitrogenous compounds (amino acid synthesis, catabolism, purine and pyrimidine synthesis); nucleic acid metabolism and control; urea cycle.)</p>	10%
	<p><b>Immunology</b> (Overview of the body defense mechanisms, the immune system, elements of innate and</p>	10%

		acquired immunity, antibody structure and function, antigenantibody interactions, cells of the immune system, monoclonal antibodies, Genetics of antibody structure and diversity, Activation and function of T and B cells and their receptors, Major histocompatibility complex, Complement system, Hypersensitivity, cytokines, Autoimmunity, resistance and immunity to infectious diseases, cell- mediated effector response, leukocyte migration and inflammation, vaccines, diseases of the immune system - autoimmunity, transplantation immunology)	
		<b>Recombinant DNA Technology</b> (Introduction and History of Recombinant DNA technology, An overview of cloning steps; Preparation of insert, restriction endonucleases, restriction mapping, vectors and their types, cloning vectors, cloning strategies, site-directed mutagenesis, sequencing strategies, transformations, regeneration through tissue culture techniques, expression of recombinant proteins and their purification by affinity chromatography; Polymerase Chain reaction, analysis of nucleic acids by gel electrophoresis, analysis of proteins by native and SDS-PAGE; 2-D gels; generation of antibodies and their uses; Southern, Western, Northern blotting. Application of recombinant DNA Technology (agriculture, health, industry, environment and basic research).	10%
06-	<b>Assistant Director (Management Information Systems Division) (RO-12)</b>	<b>As per the advertisement</b>	<b>100 MCQs</b>
		Verbal Reasoning	10%
		Analytical Reasoning	10%
		<b>Subject Related:80%</b>	
		Programming (Php/.Net)	30%
		Databases (Mysql, SQL)	20%
		Website Designing & Development (HTML, CSS, JAVA Scripting, CMS)	15%
		Information Security (Database Security, Application Software Security)	15%
07-	<b>Assistant Director (Budget &amp; Accounts/ Costing &amp; Pricing) (RO-12)</b>	<b>As per the advertisement</b>	<b>100 MCQs</b>
		Verbal Reasoning	10%
		Analytical Reasoning	10%
		<ul style="list-style-type: none"> <li>• DRAP Act, 2012</li> <li>• DRAP Accounting Procedure &amp; Financial Rules, 2015</li> <li>• DRAP Employees Service Regulations, 2015 (as amended till date)</li> </ul>	10%

		<ul style="list-style-type: none"> <li>Public Procurement Rules, 2004</li> <li>Procurement of Consultancy Services Regulations, 2010</li> </ul>	05%
		<ul style="list-style-type: none"> <li>Pension Rules of Federal Government</li> <li>General Provident Fund (Federal Services) Rules</li> </ul>	05%
		<ul style="list-style-type: none"> <li>TA/DA Rules of Federal Government</li> <li>Fundamental Rules and Supplementary Rules (FR &amp; SR) (Volume I &amp; II) of Federal Government</li> </ul>	05%
		<ul style="list-style-type: none"> <li>General Financial Rules (GFR) of Federal Government (Volume I &amp; II)</li> <li>Treasury Rules of Federal Government (Volume I &amp; II)</li> </ul>	05%
		<ul style="list-style-type: none"> <li>Income Tax Ordinance, 2001</li> <li>Income Tax Rules, 2002</li> </ul>	05%
		<ul style="list-style-type: none"> <li>The Sales Tax Act, 1990</li> <li>Sales Tax Rules, 2006</li> <li>The Islamabad Capital Territory (Tax on Services) Ordinance, 2001</li> </ul>	05%
		<b>Subject Related:40%</b>	
		<ul style="list-style-type: none"> <li>Financial Accounting</li> <li>Financial Management</li> </ul>	10%
		<ul style="list-style-type: none"> <li>Managerial Accounting</li> <li>Cost Accounting</li> </ul>	10%
		<ul style="list-style-type: none"> <li>International Financial Reporting Standards (IFRS)</li> </ul>	10%
		<ul style="list-style-type: none"> <li>Auditing</li> <li>International Standards on Auditing (ISAs)</li> </ul>	10%
08-	Assistant Director (Legal Affairs Division) (RO-12)	<b>As per the advertisement</b>	<b>100 MCQs</b>
		Verbal Reasoning	10%
		Analytical Reasoning	10%
		Drugs Act 1976 & DRAP Act, 2012	20%
		<ul style="list-style-type: none"> <li>The Drugs (Licensing, Registering &amp; Advertising) Rules, 1976</li> <li>The Drugs (Import &amp; Export) Rules, 1976</li> <li>The Drug Research Rules, 1978</li> <li>The Appellate Board Rules, 1976</li> <li>The Drugs (Labelling &amp; Packing) Rules, 1986</li> <li>The Drugs (Specification) Rules, 1986</li> </ul>	

	<ul style="list-style-type: none"> <li>• The Drugs (Federal Drugs Inspectors, Federal Drug Laboratory &amp; Federal Government Analysts) Rules, 1976</li> <li>• Medical Devices Rules, 2017</li> <li>• Alternative Medicines &amp; health Products (Enlistment) Rules, 2014</li> <li>• Drug Pricing Policy, 2018</li> </ul>	
	DRAP Employees Service Regulations, 2015 DRAP Accounting Procedure & Financial Rules, 2015 Civil Servants Act, 1973	10%
	<b>Subject Related:50%</b>	
	Constitution of Pakistan 1973	05%
	Criminal Procedure Code 1898	05%
	Pakistan Penal Code Act,1860	05%
	Code of Civil Procedure and Limitation Act, 1908	05%
	Qanun-e-Shahadat Order 1984	05%
	Transfer of Property Act & Specific Relief Act	05%
	Intellectual Property Law i.e Trade Mark Ordinance, 2001 and Patent Ordinance, 2000	05%
	Control of Narcotics & Substance Act, 1997, Control of Narcotics & Substance Rules, 2001 & UN Conventions on controlled Substances	05%
	Import & Export Policy Orders, 2022	05%
	Income Tax Ordinance, 2001 and Sales Tax Act, 1990	05%