

CGPDTM FOOD TECHNOLOGY PATENT EXAMINER SYLLABUS 203-24

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Exam	Section	Subject	Marks	Duration
Preliminary Exam	-	General English	15	2 Hours
		Verbal and Non-Verbal Reasoning	30	
		Quantitative Aptitude	30	
		General Knowledge and Current Affairs	30	
		General Science	30	
		IP Legislation in India, WIPO and related treaties	15	
		TOTAL	150	
Mains Exam	Paper –I (OMR Based)	General Knowledge and Current Affairs	20	2 Hours
		General Aptitude	20	
		Elementary Mathematics	20	
		English Language Proficiency	20	
		Knowledge related to Intellectual Property Rights (IPRs)	20	
	TOTAL	100		
	Paper –II (Descriptive answer)	Technical/Scientific Discipline (Descriptive)	300	3 Hours
Interview			100	

PRE EXAM SYLLABUS

Numerical Ability

Number System, Simplification, Average, Mixture & Alligation, Ratio & Proportion, Percentage, Profit & Loss, SI, CI, Boats & Streams, Pipes & Cisterns, Time & Work, Speed, Distance & Time, Partnerships, Problems on Ages, Mensuration 2D, Mensuration 3D, Data Interpretation, Quadratic Equations & Factorization.

Reasoning Aptitude

Directions, Ranking, Number Series, Letter Series, Alphabets, Counting of Figures, Coding-Decoding, Calendar, Clock, Blood Relations, Inequalities, Seating Arrangement, Puzzle, Dice, Cube, Syllogism, Critical Reasoning, Data Sufficiency, Non-Verbal Reasoning

English Language

Parts of Speech, Noun, Pronoun, Adjective, Adverb, Verb, Article, Preposition, Conjunction, Vocab, Idioms & Phrases, Antonyms, Synonyms, One Word Substitution, Time & Tense, Clause, Subject Verb Agreement, Direct/Indirect, Active/Passive, Para Jumble, Question Tag, Single Double Fillers, Cloze Test, Reading Comprehension

General Science

Physics:- (SI unit, Light and Reflection, Electricity, Wave Optics, Motion, Gravity, Work, Pressure, Sound, Heat, Magnetism)

Chemistry:- (Properties of Substances, Chemical Reactions, Properties of Gases, Chemistry in everyday life, Definition based questions, Uses, Common Names and Composition of Various Chemicals, Alloys, Chemical change and Physical change)

Biology:- (Plant Kingdom, Animal Kingdom, Human Body and Diseases, Prevention and Cure of Illness, Nutrient and Deficiency, Environmental Studies)

GK, Current Affairs:- Current Affairs 2022 & Current Affairs 2023, Static GK, Sports Current Affairs, Defence Current Affairs, Recent Appointments, etc.

IP legislation in India, WIPO and related treaties :- Introduction to Intellectual Property Rights, Trade Marks, Trade Secrets, Geographical Indication of Goods, Copyrights, Patents, Industrial Designs, IP Rights, WIPO & Related Treaties

MAINS EXAM SYLLABUS <https://vishalfoodtech.com/>

Elementary Mathematics

Information of Numbers, Divisibility Rule, Remainder Theorem, Concept of Bar, Concept of Unit Digit, Factors, LCM, HCF, Decimals & Fractions, Mean, Mode, Median, Permutation & Combination, Probability, Surds & Indices

General Aptitude

Quantitative Aptitude + Reasoning Aptitude (Analytical, Spatial)

English Language

Parts of Speech, Noun, Pronoun, Adjective, Adverb, Verb, Article, Preposition, Conjunction, Vocab, Idioms & Phrases, Antonyms, Synonyms, One Word Substitution, Time & Tense, Clause, Subject Verb Agreement, Direct/Indirect, Active/Passive, Para Jumble, Question Tag, Single Double Fillers, Cloze Test, Reading Comprehension

General Knowledge & Current Affairs

Current Affairs 2022, Current Affairs 2023, Static GK

Intellectual Property

Introduction to Intellectual Property Rights, Trade Marks, Trade Secrets, Geographical Indication of Goods, Copyrights, Patents, Industrial Designs, IP Rights, WIPO & Related Treaties

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FT Food Technology Mains Syllabus <https://vishalfoodtech.com/>

Food Chemistry and Nutrition:

1. **Carbohydrates:** Structure and functional properties of mono-oligo- polysaccharides including starch, cellulose, pectic substances and dietary fibre;
2. **Proteins:** Classification and structure of proteins in food;
3. **Lipids:** Classification and structure of lipids, Rancidity of fats, Polymerization and polymorphism;
4. **Pigments:** Carotenoids, chlorophylls, anthocyanins, tannins and myoglobin;
5. **Food flavours:** Terpenes, esters, ketones and quinones; Enzymes: Specificity, Kinetics and inhibition, Coenzymes, Enzymatic and non-enzymatic browning;
6. **Nutrition:** Balanced diet, Essential amino acids and fatty acids, PER, Water soluble and fat soluble vitamins, Role of minerals in nutrition, Antinutrients, Nutrition deficiency diseases.

Food Microbiology:

1. **Characteristics of microorganisms:** Morphology, structure and detection of bacteria, yeast and mold in food, Spores and vegetative cells;
2. **Microbial growth in food:** Intrinsic and extrinsic factors, Growth and death kinetics, serial dilution method for quantification; <https://vishalfoodtech.com/>
3. **Food spoilage:** Contributing factors, Spoilage bacteria, Microbial spoilage of milk and milk products, meat and meat products;
4. **Foodborne disease:** Toxins produced by Staphylococcus, Clostridium and Aspergillus;
5. **Bacterial pathogens:** Salmonella, Bacillus, Listeria, Escherichia coli, Shigella, Campylobacter; **Fermented food:** Buttermilk, yoghurt, cheese, sausage, alcoholic beverage, vinegar, sauerkraut and soya sauce.

Food Products Technology: <https://vishalfoodtech.com/>

1. **Processing principles:** Canning, chilling, freezing, dehydration, control of water activity, CA and MA storage, fermentation, hurdle technology, addition of preservatives and food additives, Food packaging, cleaning in place and food laws.;

2. **Grain products processing:** Milling of rice, wheat, and maize, parboiling of paddy, production of bread, biscuits, extruded products and breakfast cereals, Solvent extraction, refining and hydrogenation of oil;
3. **Fruits, vegetables and plantation products processing:** Extraction, clarification concentration and packaging of fruit juice, Production of jam, jelly, marmalade, squash, candies, and pickles, pectin from fruit waste, tea, coffee, chocolate and essential oils from spices;
4. **Milk and milk products processing:** Pasteurized and sterilized milk, cream, butter, ghee, ice-cream, cheese and milk powder;
5. **Animal products processing:** Drying and canning of fish, post mortem changes, tenderization and freezing of meat, egg powder.

Food Engineering:

1. **Mass and energy balance;**
2. **Momentum transfer:** Flow rate and pressure drop relationships for Newtonian fluids flowing through pipe, Characteristics of non- Newtonian fluids – generalized viscosity coefficient and Reynolds number, Flow of compressible fluid, Flow measurement, Pumps and compressors;
3. **Heat transfer:** Heat transfer by conduction, convection, radiation, boiling and condensation, Unsteady state heat transfer in simple geometry, NTU effectiveness relationship of co-current and counter current double pipe heat exchanger;
4. **Mass transfer:** Molecular diffusion and Fick's Law, Steady state mass transfer, Convective mass transfer, Permeability of films and laminates;
5. **Mechanical operations:** Energy requirement and rate of operations involved in size reduction of solids, high pressure homogenization, filtration, centrifugation, settling, sieving, flow through porous bed, agitation of liquid, solid-solid mixing, and single screw extrusion;
6. **Thermal operations:** Energy requirement and rate of operations involved in process time evaluation in batch and continuous sterilization, evaporation of liquid foods, hot air drying of solids, spray and freeze-drying, freezing and crystallization;
7. **Mass transfer operations:** Properties of air-water vapor mixture; Humidification and dehumidification operations.

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