Ph.D. Entrance Syllabus Management Department

I. Quantitative & Qualitative Aptitude

- **Quantitative Aptitude:**
  – Ratios & proportions, percentages, profit & loss
  – Time & work, time–distance, averages
  – Basic algebra & linear equations
  – Number series, sequence patterns
  – Simple probability & permutations
  – Data interpretation (tables, bar graphs, line charts)

- **Qualitative / Analytical Aptitude:**
  – Analogy, classification, coding–decoding
  – Logical reasoning: deduction, induction, syllogisms
  – Puzzles, direction sense, seating arrangements
  – Pattern recognition, order & ranking
  – Verbal reasoning and simple data sufficiency

II. Research Methodology

- Meaning, scope and types of research
- Research designs: exploratory, descriptive, causal
- Sampling methods: probability & non-probability
- Data collection tools: questionnaire, interview, observation
- Measurement scales, reliability & validity
- Hypothesis formulation and basics of hypothesis testing (z, t, chi-square, ANOVA)
- Basics of research report writing, plagiarism & ethics in research

III. Logistics & Supply Chain Management

- Introduction to SCM: definitions, scope, objectives, elements
- Supply chain drivers: facilities, inventory, transportation, information, sourcing, pricing
- Logistics fundamentals: inbound & outbound logistics, warehousing, packaging, distribution
- Transportation management: modes, routing, scheduling, multimodal transport
- Inventory management: EOQ, safety stock, ABC analysis, reorder point systems
- Demand forecasting methods: qualitative & quantitative
- Warehouse design, layout, picking systems & material handling
- Procurement & sourcing strategies, vendor evaluation, global sourcing
- Supply chain network design, facility location, distribution strategies
- Supply chain coordination, bullwhip effect and mitigation strategies
- Reverse logistics & green supply chain
- Technology in SCM: ERP, WMS, TMS, IoT, RFID, AI, Blockchain

- Supply chain risk management, resilience, sustainability & circular models
- Current trends: e-logistics, hyperlocal supply chains, automated warehousing

IV. Retail & E-Commerce Management

- Retail fundamentals: role, scope, formats
- Retail mix: product, price, promotion, place, people, presentation
- Consumer behaviour in retail settings
- Merchandising, category management & demand forecasting
- Retail operations: store layout, inventory control, customer service
- E-commerce business models: B2B, B2C, C2C, D2C
- Digital payments, fulfilment centres, logistics & returns management
- Omni-channel retail, click-and-collect, last-mile delivery
- Emerging trends: quick commerce, social commerce, conversational commerce

V. BFSI – FinTech

- Overview of the Indian financial system
- Banking basics: deposits, advances, NPAs, credit evaluation
- Insurance concepts: premium, risk pooling, underwriting
- FinTech evolution: UPI, wallets, IMPS/NEFT, digital KYC
- API banking, payment gateways, tokenization
- Blockchain basics, distributed ledgers & smart contracts
- Digital lending, peer-to-peer lending, BNPL
- WealthTech, InsurTech, RegTech
- Cybersecurity in BFSI, fraud management, RBI digital finance guidelines

VI. Digital Media & Marketing

- Fundamentals of digital marketing
- SEO (on-page, off-page) & SEM (Google Ads, PPC models)
- Social media marketing: Instagram, Facebook, LinkedIn, YouTube
- Content marketing: planning, calendars, storytelling
- Email marketing & marketing automation
- Performance marketing, CTR, CPC, CPM, campaign optimization
- Web & social analytics (KPIs, metrics, funnels, conversions)
- Online consumer behaviour
- Influencer marketing, ORM, digital branding

VII. Ports and Terminal Management

- Types and functions of ports
- Port governance and regulatory framework
- Basic terminal operations: berthing, pilotage, and cargo handling
- Types of terminals: container terminals, bulk cargo terminals, and liquid cargo terminals

- Container terminal operations: vessel scheduling and yard planning
- Major port equipment: quay cranes, rail-mounted gantry cranes, rubber-tired gantry cranes, and reach stackers
- Port logistics and hinterland connectivity
- Port performance indicators: berth productivity and crane productivity
- Port safety and security, including the International Ship and Port Facility Security Code
- Digitalization in ports: Port Community System, Electronic Data Interchange, and port automation
- Emerging trends: smart ports and environmentally sustainable port initiatives

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