

## Department of Pharmaceutical management

### State exam for V course 2019

1. Stages of developing new (original) drugs. Target discovery, target validation, assay development, lead identification.
2. Stages of developing new (original) drugs. Lead optimization, chemistry, manufacturing and control approvals, clinical trials.
3. Generic drugs.
4. Drug names. Drug classification. ATC classification system. Inclusion and exclusion criteria. Strengths and weaknesses of ATC classification system.
5. The role of the pharmacist. The concept of seven-star pharmacist.
6. The role of the pharmacist. The pharmacist and the patient. Self-care and self-medication.
7. The role of the pharmacist. Good Pharmacy Practice (GPP).
8. Drug regulations. National Drug Policy (NDP). Components of national drug policy.
9. Drug regulations. The role of pharmaceutical legislation and regulations. Drug registration, licensing, and marketing authorization.
10. Drug regulations. The role of drug and therapeutic committees.
11. Risk management.
12. Drug donation. Managing drug donation. Guidelines for drug donation.
13. Rational drug use. Examples of irrational drug use. Adverse impact of irrational drug use.
14. Rational drug use. Managing rational drug use (prescriber-determined). Regulatory approaches.
15. Rational drug use. Managing rational drug use (dispenser-determined). Dispensing environment, dispensing person, dispensing process.
16. Managing rational drug use (dispenser-determined). Promoting efficient management Dispensing. Packaging and labeling of drugs. Off-label drug use.
17. Over-The-Counter medicines. Criteria for OTC use of medicines.
18. Complementary medicines. Orphan drugs. Classification, discovery, development, marketing and distribution.
19. Drug supply and distribution. Organizing drug supply. Managing drug distribution. Distribution Cycle.
20. Drug supply and distribution. Push and pull systems. Resupply interval.
21. Public health. Health systems based on financing. Public health indicators.
22. Principles of Compounding Introduction. Compounded Dosage Forms.
23. Pharmacies, Drugstores. Requirements of Public drugstores.
24. Prescription drugs. Computer generation. Validity of form. Length of treatment.
25. Pharmaceutical system. Family medicine.
26. Permission of pharmaceutical activity and licensing. Principles of licensing.
27. Drug surveillance. Safety post marketing.

28. Benefit risk evaluation.
29. Drug withdrawals from the market.
30. Accounting from information standpoint. Accounting, bookkeeping, data, information. Accounting from the users' standpoint.
31. Tax accounting, management accounting, financial accounting.
32. Accounting principle (concepts). Monetary principle, business entity principle, objectivity principle, going-concern principle. Cost principle, dual-aspect principle.
33. Legal forms of business organization. Partnership, corporation, sole proprietorship. Comparative features of the forms of business organization.
34. Account categories. Assets, current assets, non-current assets, intangible assets.
35. Account categories. Liabilities, current liabilities, non-current liabilities. Owners' equity.
36. Financial statements. The balance sheet. Dual-aspect concept. Resources and claims view. Accounting equation of balance sheet.
37. Financial statements. The income statement. Accounting period principle, recognition principle. Unearned revenue, account receivables, depreciation.
38. Income statement. The realization principle, the matching principle, consistency principle, materiality principle.
39. Financial statements. The statement of owners' equity. The statement of cash flows. Current ratio.
40. Long-term assets. Tangible assets. Depreciation, depreciation expense. Natural resources, intangible assets, book value equation.
41. Debit and credit. Debit and credit for assets, liabilities and shareholders' equity. Accounting equation with expenses and revenues.
42. Marketing. Sellers' market. Buyers' market. Marketing strategy.
43. Major categories of marketing theories. Need (categories), wants, demand, product, service (4 properties), consumer value, exchange (5 conditions), and transaction (types).
44. Selecting target markets. Market segmentation. 5 different ways to get to the market. Market positioning. Developing marketing mix (4Ps and 4 Cs).
45. Market positioning. Product's position. 3 types of positioning (functional, symbolic, experiential). Positioning strategies. Positioning differences.
46. Strategic analysis. SWOT analysis. Examples of strengths, weaknesses, opportunities and threats.
47. Strategic analysis. Business portfolio analysis. Market share/growth matrix (stars, problematic kids, milk cows, dogs).
48. Strategic analysis. Business portfolio analysis. Product/market development matrix (market penetration, market development, product development, diversification).
49. Marketing research. Main directions. Steps of marketing research process.
50. Types of marketing information (primary and secondary). Methods of quantitative data collection. Methods of qualitative data collection.

51. Methods of quantitative data collection. Survey. Structure of a questionnaire. Data collection sequence.
52. Merchandising. Goals of merchandising. Stages of purchase decision process. Purchasing motivation. 3 types of buyers.
53. Merchandising. 3 major tools of merchandising. Space-management. Product placing principles. Weak sides and strong sides. P.O.S. designing. . Stock control.
54. Merchandising. Customer behavior. 5 stages of sell.
55. Cost behavior. Variable costs, fixed costs, semi variable and mixed costs.
56. Cost behavior. Cost-volume-profit analysis. Breakeven point/volume. Target profit.
57. Inflation. Deflation, purchasing power, price index.
58. Introduction to economics. Economics, microeconomics, macroeconomics. Opportunity costs, inputs, outputs, factors of production (land, labor, capital).
59. Economic efficiency. Opportunity cost, productive efficiency, allocative efficiency, and distributive efficiency.
60. Economic systems, market and competition. Command economy, laissez-faire economy, mixed economies. Market, perfect competition, monopoly, oligopoly, monopolistic competition.
61. The theory of demand and supply. Demand, the law of demand, demand curve. Demand non price influences- prices of related goods, complementary goods, consumer income (normal and inferior goods).
62. Demand. Demand non price influences- consumer tastes and preferences, demography, consumer expectations. Changes in quantity demanded vs. changes in demand movements along the demand curve, shifts of the demand curve.
63. Supply, the law of supply. Supply curve. Supply non-price influences- costs of production, production technology, prices of related goods, producers' expectations, the number of sellers, government policy.
64. Market equilibrium. Surplus and shortage. Price elasticity of demand. Elastic demand, unit-elastic demand, inelastic demand. Price elasticity of supply.
65. Price elasticity. Factors which affect on price elasticity of demand. Factors which affect on price elasticity of supply. Demand, supply and government policy (price control).
66. Macroeconomics. Gross domestic product (GDP). Aggregate expenditures. Consumption expenditures, investments, government purchases, net exports.
67. Macroeconomics. Unemployment. Types of unemployment. Unemployment rate.
68. Price and pricing. Price. Pricing considering marketing strategy of company. Pricing based on costs.
69. Price and pricing. Market oriented pricing. Competitive pricing. Pricing considering buyers' psychology.
70. Competition. Types of competition according to level, according to the source of competition, according to competition strategy, according to market structure, according to "fighting" type.
71. Competition strategies (Porter's model). Shortcomings of Porter's model.

72. Competition strategy according to competing position.
73. Benchmarking. Types of benchmarking. Stages of benchmarking.
74. Consumer behavior. Factors influencing consumer behavior (cultural, social, personal, psychological). Maslow hierarchical structure of human needs. Motivation Maslow theory.
75. Consumer behavior. Motivation, perception, types of perception, attitudes. Decision making processes by buyer. Complicated buyer behavior, uncertain buyer behavior, exploring buyer behavior, habitual buyer behavior.
76. Consumer behavior. Buyer decision process. Stages. Buyer decision process toward new product. Stages. Innovators, early adopters, early majority, late majority, laggards.
77. Service marketing. Classification of services (from ownership, communication with consumer and form service provider standpoint). Description of services (5 characteristics).
78. Service marketing. Marketing strategies for companies of service sphere. Differentiation management, control over service quality.
79. Communication. Vertical communications (descending and ascending). Horizontal communication. Internal and external communication.
80. Communication. 4 basic elements of communication process. Interrelated stages of communication process.
81. Motivation. Primary and secondary needs. Maslow's hierarchy of needs. Taylor's system.
82. Motivation. McClelland's theory of motivation. Hygiene factors. Motivation factors.
83. Conflicts. Main forms of human relationship. Functional and dysfunctional conflicts. Main causes of conflicts.
84. Frustration. Types of frustration. Managers functions for conflict prevention.
85. Management. Pharmaceutical management.
86. Organization. Its resources, management and goals.
87. Ethics and culture of the firm.
88. Classification of managerial decisions and their requirements.
89. Human resources management. Recruitment of pharmaceutical staff.
90. Interview. Interview methods.

### **Literature**

1. Lectures read in the department.
2. F. Kotler. Marketing management. Express course. Moscow. 2006.

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