

Year Semester: First year B.Pharm Semester I
Subject Name: Pharmaceutical Chemistry I
Course: 2011 syllabus
Course Code: 1.1.1T
Course Outcomes
CO1 Describe the relevance and significance of inorganic chemistry with reference to pharmaceutical sciences.
CO2 Understand monographs of inorganic pharmaceuticals.
CO3 Refer official Pharmacopoeias to detect impurities.
CO4 Review the official electrolytes intended for replacement therapy and maintaining acid-base balance.
CO5 Discuss and apply the physicochemical properties, assay, and uses of inorganic gastrointestinal agents.
CO6 Explain physiological role of essential and trace elements along with deficiency symptoms associated with them.
Year Semester: First year B.Pharm Semester I
Subject Name: Pharmaceutical Chemistry I
Course: 2011 syllabus
Course Code: 1.1.1P
Course Outcomes
CO1 Comprehend basic practical terms and concepts used inorganic chemistry.
CO2 Apply the monograph of pharmaceuticals from official compendia.
CO3 Analyze qualitatively samples in a binary mixture.
CO4 Prepare and determine purities of inorganic compounds.
CO5 Identify impurities in pharmaceutical compounds as per Indian pharmacopoeia
CO6 Compute, analyze and record data.
Year Semester: First year B.Pharm Semester I
Subject Name: Communication skill
Course: PCI 2011 syllabus
Course Code: 1.1.7.T
Course Outcomes
CO 1 Develop behavioral traits to function effectively in pharmaceutical operations.
CO 2 Develop effective communication skill.
CO 3 Organize and manage the team as a team player
CO 4 Apply effective writing and listening skill at personal and professional level.
CO 5 Communicate in interviews confidently.
CO 6 Demonstrate entrepreneurship capabilities meticulously to succeed in today's competitive world.
Year Semester: First year B.Pharm Semester I
Subject Name: Communication skill
Course: PCI 2011 syllabus
Course Code: 1.1.7.P
Course Outcomes
CO 1 Develop behavioral traits to function effectively in pharmaceutical operations.
CO 2 Communicate confidently with a good understanding of people's skills.
CO 3 Apply effective writing and listening skills at personal and professional level.
CO 4 Illustrate presentation skills.
CO 5 Communicate in interviews confidently.
CO 6 Apply email etiquette in professional set up.

Year Semester: Second year B.Pharm Semester III
Subject Name: Physical Pharmacy I (Theory)
Course: 2011 syllabus
Course Code: 2.1.4 T
CO 1 Understand physicochemical properties of drugs and excipients.
CO 2 Use modern analytical tools to assess physicochemical properties of drugs
CO 3 Relate physicochemical properties of pharmaceuticals for formulation design.
CO 4 Apply principles of chemical kinetics in stability testing and estimation of shelf life of formulations.
CO 5. Justify the role of stable formulations for effective therapeutic outcome.
CO 6. Analyze and tackle problems encountered in formulation development.
Year Semester: Second year B.Pharm Semester III
Subject Name: Physical Pharmacy I (Practical)
Course: 2011 syllabus
Course Code: 2.1.4 P
Course Outcomes
CO 1 Evaluate physicochemical properties of drug molecules using modern analytical tools.
CO 2 Understand significance of physicochemical properties of pharmaceuticals in formulation development.
CO 3 Estimate chemical kinetic parameters.
CO 4 Calculate shelf life of pharmaceuticals.
CO 5. Compute, analyze and record data.
CO 6. Identify and tackle problems encountered in formulation development by working in a team.
Year Semester: Second year B.Pharm Semester IV
Subject Name: Physical Pharmacy II (Theory)
Course: 2011 syllabus
Course Code: 2.2.4 T
Course Outcomes
CO 1 Understand physicochemical properties of drugs and excipients.
CO 2 Use modern analytical tools to assess physicochemical properties of drugs
CO 3 Relate physicochemical properties of pharmaceuticals for formulation design.
CO4 Describe principles of compression and compaction in tablet manufacturing.
CO 5 Understand factors governing stability of finished pharmaceutical products.
CO 6 Analyze and tackle problems encountered in formulation development.
Year Semester: Second year B.Pharm Semester IV
Subject Name: Physical Pharmacy II (Practical)
Course: 2011 syllabus
Course Code: 2.2.4 P
Course Outcomes
CO 1 Evaluate physicochemical properties of pharmaceuticals using modern analytical tools.
CO 2 Understand significance of physicochemical properties of pharmaceuticals in formulation development.
CO 3 Apply use of micromeritic properties in design of solid dosage form
CO 4 Apply use of derived properties in design of pharmaceutical liquids.
CO 5. Compute, analyze and record data.
CO 6. Identify and tackle problems encountered in formulation development by working in a team.

Year Semester: Second year B.Pharm Semester IV
Subject Name: Dosage Form Design I (Theory)
Course: 2011 syllabus
Course Code: 2.2.5 T
Name of the Subject-in-Charge : Dr Ravindra Kamble
Course Outcomes
CO 1 Explain basics of physicochemical, biopharmaceutical and therapeutic aspects for formulation design.
CO 2 Design appropriate processing layout for pharmaceutical manufacturing.
CO 3 Review formulation and evaluation parameters of pharmaceutical dosage forms
CO 4 Describe the IPQC and quality control tests.
CO 5. Review biotechnology based pharmaceuticals
CO 6. Select manufacturing and quality control equipments for pharmaceuticals.
Year Semester: Second year B.Pharm Semester IV
Subject Name: Dosage Form Design I (Practical)
Course: 2011 syllabus
Course Code: 2.2.5 P
Name of the Subject-in-Charge : Dr Ravindra Kamble
Course Outcomes
CO 1 Review of marketed drug products.
CO 2 Describe the IPQC and quality control tests.
CO 3 Formulate liquid, dry syrup and suppositories formulations
CO 4 Select appropriate manufacturing equipments.
CO 5. Evaluate quality of pharmaceuticals
CO 6. Adapt Good Laboratory Practices.
Year Semester: Third year B.Pharm Semester VI
Subject Name: Pharmacognosy II
Course: 2011 syllabus
Course Code: 3.2.4 T
Name of the Subject-in-Charge : Dr Vaibhav shinde
Theory
Course Outcomes
CO 1 Understand the basics of crude drugs.
CO 2 Explain the categories of plant constituents with their characteristics
CO 3 Describe pharmacognostic account of important secondary metabolites.
CO 4 Review the drugs from marine source.
CO 5. Apply modern tools to check adulteration in herbal drugs for industrial utility.
CO 6. Create awareness of medicinal uses, drug interactions and toxicities of herbal medicines.

Year Semester: Third year B.Pharm Semester VI
Subject Name: Pharmacognosy II
Course: 2011 syllabus
Course Code: 3.2.4 P
Name of the Subject-in-Charge : Dr Vaibhav shinde
Practical
Course Outcomes
CO 1 Evaluate different plant tissues and their characteristics.
CO 2 Characterize the crude drugs on the basis of morphological and microscopical characters
CO 3 Analyze crude drugs using chemical tests
CO 4 Apply the techniques for extraction of phyto-constituents from crude drugs
CO 5. Describe the cultivation and manufacturing process of herbal drugs
CO 6. Understand and conduct the survey of marketed herbal products
Year Semester: Final year B.Pharm Semester VII
Subject Name: Dosage Form Design IV (Theory)
Course: 2011 syllabus
Course Code: 4.1.2 T
Course Outcomes
CO 1 Understand the concept of Controlled drug delivery systems.
CO 2 Design and formulate Novel Drug Delivery Systems.
CO 3 Recommend appropriate processes and equipment for manufacturing & packaging of NDDS formulations.
CO 4 Review ICH guidelines in dosage form development
CO 5. Assess quality of NDDS formulations as per compendial standards using modern analytical tools.
CO 6. Review the concept of quality assurance in pharmaceutical products
Year Semester: Final year B.Pharm Semester VII
Subject Name: Dosage Form Design IV (Practical)
Course: 2011 syllabus
Course Code: 4.1.2 P
Course Outcomes
CO 1 Understand the concept of Controlled drug delivery.
CO 2 Apply the concept of physicochemical, biopharmaceutical and therapeutic aspects in NDDS formulation design
CO 3 Assess quality of CR and IR tablets as per compendial standards using modern analytical tools.
CO 4 Design validation protocol for equipments and aseptic area by working in a team.
CO 5. Compute, analyze and create study protocol and reports for manufacturing of dosage forms.
CO 6. Perform accelerated stability testing of dosage forms.

Year Semester: Final year B.Pharm Semester VII
Subject Name: Pharmaceutical analysis V
Course: 2015 syllabus
Course Code: 4.1.5 T
Course Outcomes
CO1 Comprehend the basic concepts of spectroscopy.
CO2 Understand general components and their functions of spectroscopic instruments.
CO3 Apply fundamentals of UV Visible spectroscopy for Pharmaceutical analysis.
CO4 Elaborate the concept and applications of vibrational spectroscopy
CO5 Interpret UV and IR spectra for structural elucidation
CO6 Explain the principles and applications of emission spectroscopy
Year Semester: Final year B.Pharm Semester VII
Subject Name: Pharmaceutical analysis V
Course: 2015 syllabus
Course Code: 4.1.5 P
2011 Course Practical
Course Outcomes
CO1 Select and apply suitable analytical technique to assess purity and safety of pharmaceuticals for the benefit of society.
CO2 protocol for quantitative analysis of drugs and formulations
CO3 Handle analytical instruments
CO4 Interpret UV and IR Spectra
CO5 Apply problem solving approach in pharmaceutical analysis
CO6 Compute, analyze and record data
Year Semester: Final year B.Pharm Semester VIII
Subject Name: Drug Regulatory Affairs
Course: 2011 syllabus
Course Code: 4.2.6 T
Course Outcomes
CO 1. Understand pharmaceutical legislations related to drugs and cosmetics in India.
CO 2. Explain pharmaceutical rules and regulation for the benefit of society.
CO 3. Apply practice of Pharmaceutical ethics & policy.
CO 4. Comprehend the regulatory system for safe and effective medicine.
CO 5. Review the role of international drug regulatory agencies.
CO 6. Describe the Indian Patent Act.
Year Semester: First year B.Pharm Semester I
Subject Name: Pharmaceutical Chemistry I
Course: 2011 syllabus
Course Code: 1.1.1T
Course Outcomes
CO1 Describe the relevance and significance of inorganic chemistry with reference to pharmaceutical sciences.
CO2 Understand monographs of inorganic pharmaceuticals.
CO3 Refer official Pharmacopoeias to detect impurities.
CO4 Review the official electrolytes intended for replacement therapy and maintaining acid-base balance.
CO5 Discuss and apply the physicochemical properties, assay, and uses of inorganic gastrointestinal agents.

CO6 Explain physiological role of essential and trace elements along with deficiency symptoms associated with them.

Year Semester: First year B.Pharm Semester I
Subject Name: Pharmaceutical Chemistry I
Course: 2011 syllabus
Course Code: 1.1.1P
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CO2 Apply the monograph of pharmaceuticals from official compendia.
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Subject Name: Communication skill
Course: PCI 2011 syllabus
Course Code: 1.1.7.T
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Subject Name: Communication skill
Course: PCI 2011 syllabus
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CO 3 Apply effective writing and listening skills at personal and professional level.
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CO 5 Communicate in interviews confidently.
CO 6 Apply email etiquette in professional set up.
Year Semester: Second year B.Pharm Semester III
Subject Name: Physical Pharmacy I (Theory)
Course: 2011 syllabus
Course Code: 2.1.4 T
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CO 2 Use modern analytical tools to assess physicochemical properties of drugs
CO 3 Relate physicochemical properties of pharmaceuticals for formulation design.
CO 4 Apply principles of chemical kinetics in stability testing and estimation of shelf life of formulations.
CO 5.Justify the role of stable formulations for effective therapeutic outcome.
CO 6. Analyze and tackle problems encountered in formulation development.

Year Semester: Second year B.Pharm Semester III
Subject Name: Physical Pharmacy I (Practical)
Course: 2011 syllabus
Course Code: 2.1.4 P
Course Outcomes
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CO 2 Understand significance of physicochemical properties of pharmaceuticals in formulation development.
CO 3 Estimate chemical kinetic parameters.
CO 4 Calculate shelf life of pharmaceuticals.
CO 5. Compute, analyze and record data.
CO 6. Identify and tackle problems encountered in formulation development by working in a team.
Year Semester: Second year B.Pharm Semester IV
Subject Name: Physical Pharmacy II (Theory)
Course: 2011 syllabus
Course Code: 2.2.4 T
Course Outcomes
CO 1 Understand physicochemical properties of drugs and excipients.
CO 2 Use modern analytical tools to assess physicochemical properties of drugs
CO 3 Relate physicochemical properties of pharmaceuticals for formulation design.
CO 4 Describe principles of compression and compaction in tablet manufacturing.
CO 5.Understand factors governing stability of finished pharmaceutical products.
CO 6. Analyze and tackle problems encountered in formulation development.
Year Semester: Second year B.Pharm Semester IV
Subject Name: Physical Pharmacy II (Practical)
Course: 2011 syllabus
Course Code: 2.2.4 P
Course Outcomes
CO 1 Evaluate physicochemical properties of pharmaceuticals using modern analytical tools.
CO 2 Understand significance of physicochemical properties of pharmaceuticals in formulation development.
CO 3 Apply use of micromeritic properties in design of solid dosage form
CO 4 Apply use of derived properties in design of pharmaceutical liquids.
CO 5. Compute, analyze and record data.
CO 6. Identify and tackle problems encountered in formulation development by working in a team.
Year Semester: Second year B.Pharm Semester IV
Subject Name: Dosage Form Design I (Theory)
Course: 2011 syllabus
Course Code: 2.2.5 T
Name of the Subject-in-Charge : Dr Ravindra Kamble
Course Outcomes
CO 1 Explain basics of physicochemical, biopharmaceutical and therapeutic aspects for formulation design.
CO 2 Design appropriate processing layout for pharmaceutical manufacturing.
CO 3 Review formulation and evaluation parameters of pharmaceutical dosage forms
CO 4 Describe the IPQC and quality control tests.
CO 5. Review biotechnology based pharmaceuticals
CO 6. Select manufacturing and quality control equipments for pharmaceuticals.

Year Semester: Second year B.Pharm Semester IV
Subject Name: Dosage Form Design I (Practical)
Course: 2011 syllabus
Course Code: 2.2.5 P
Name of the Subject-in-Charge : Dr Ravindra Kamble
Course Outcomes
CO 1 Review of marketed drug products.
CO 2 Describe the IPQC and quality control tests.
CO 3 Formulate liquid, dry syrup and suppositories formulations
CO 4 Select appropriate manufacturing equipments.
CO 5. Evaluate quality of pharmaceuticals
CO 6. Adapt Good Laboratory Practices.
Year Semester: Third year B.Pharm Semester VI
Subject Name: Pharmacognosy II
Course: 2011 syllabus
Course Code: 3.2.4 T
Name of the Subject-in-Charge : Dr Vaibhav shinde
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Course Outcomes
CO 1 Understand the basics of crude drugs.
CO 2 Explain the categories of plant constituents with their characteristics
CO 3 Describe pharmacognostic account of important secondary metabolites.
CO 4 Review the drugs from marine source.
CO 5. Apply modern tools to check adulteration in herbal drugs for industrial utility.
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Course Code: 3.2.4 P
Name of the Subject-in-Charge : Dr Vaibhav shinde
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Course Outcomes
CO 1 Evaluate different plant tissues and their characteristics.
CO 2 Characterize the crude drugs on the basis of morphological and microscopical characters
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CO 5. Describe the cultivation and manufacturing process of herbal drugs
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Year Semester: Final year B.Pharm Semester VII
Subject Name: Dosage Form Design IV (Theory)
Course: 2011 syllabus
Course Code: 4.1.2 T
Course Outcomes
CO 1 Understand the concept of Controlled drug delivery systems.
CO 2 Design and formulate Novel Drug Delivery Systems.
CO 3 Recommend appropriate processes and equipment for manufacturing & packaging of NDDS formulations.
CO 4 Review ICH guidelines in dosage form development
CO 5. Assess quality of NDDS formulations as per compendial standards using modern analytical tools.

CO 6. Review the concept of quality assurance in pharmaceutical products

Year Semester: Final year B.Pharm Semester VII
Subject Name: Dosage Form Design IV (Practical)
Course: 2011 syllabus
Course Code: 4.1.2 P
Course Outcomes
CO 1 Understand the concept of Controlled drug delivery.
CO 2 Apply the concept of physicochemical, biopharmaceutical and therapeutic aspects in NDDS formulation design
CO 3 Assess quality of CR and IR tablets as per compendial standards using modern analytical tools.
CO 4 Design validation protocol for equipments and aseptic area by working in a team.
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Course: 2015 syllabus
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CO3 Apply fundamentals of UV Visible spectroscopy for Pharmaceutical analysis.
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CO6 Explain the principles and applications of emission spectroscopy
Year Semester: Final year B.Pharm Semester VII
Subject Name: Pharmaceutical analysis V
Course: 2015 syllabus
Course Code: 4.1.5 P
2011 Course Practical
Course Outcomes
CO1 Select and apply suitable analytical technique to assess purity and safety of pharmaceuticals for the benefit of society.
CO2 Design protocol for quantitative analysis of drugs and formulations
CO3 Handle analytical instruments
CO4 Interpret UV and IR Spectra
CO5 Apply problem solving approach in pharmaceutical analysis
CO6 Compute, analyze and record data
Year Semester: Final year B.Pharm Semester VIII
Subject Name: Drug Regulatory Affairs
Course: 2011 syllabus
Course Code: 4.2.6 T
Course Outcomes
CO 1. Understand pharmaceutical legislations related to drugs and cosmetics in India.
CO 2. Explain pharmaceutical rules and regulation for the benefit of society.
CO 3. Apply practice of Pharmaceutical ethics & policy.
CO 4. Comprehend the regulatory system for safe and effective medicine.
CO 5. Review the role of international drug regulatory agencies.
CO 6. Describe the Indian Patent Act.