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CJ—08—2019

FACULTY OF PHARMACEUTICAL SCIENCES AND TECHNOLOGY

B.Pharm. (Fourth Year) (Eighth Semester) EXAMINATION

MARCH/APRIL, 2019

NOVEL DRUG DELIVERY SYSTEM AND TARGETED DRUG DELIVERY SYSTEM

(Tuesday, 23-4-2019) (BPH-813) **Time : 2.00 p.m. to 4.00 p.m.**

Time—2 *Hours* *Maximum Marks*—50

N.B. :— (*i*) *All* questions are compulsory.

(*ii*) Figures to the right indicate full marks.

(*iii*) Answer to the point only.

1. Solve any *five* of the following : 5×2=10

(*a*) Classify Novel drug delivery system.

(*b*) Mention different bio-degradable polymers.

(*c*) Enlist ideal requirements for controlled ocular drug delivery system.

(*d*) Give physiology of colon.

(*e*) Mention different factors affecting mucoadhesion.

(*f*) Define and classify liposomes.

(*g*) Give advantages of microencapsulation.

2. Solve any *four* of the following : 4×3=12

(*a*) Discuss in brief Alzet osmotic pump.

(*b*) Give pharmaceutical applications of polymers.

(*c*) Describe 'Lacriserts in ocular drug delivery system.

(*d*) Describe different problems encounters in the preparation of colonic drug delivery.

(*e*) Give applications of Neosomes.

(*f*) Define microencapsulation. Draw net labelled diagram of Wurster air suspension apparatus.

P.T.O.

3. Solve any *four* of the following : 28

(*a*) Explain non-erodible inserts.

(*b*) Give in detail approaches used in colon targeted drug delivery system.

(*c*) Write a note on polymers used for Mucoadhesive drug delivery system.

(*d*) Explain Hypo-osmotic lysis method of resealed erythrocytes.

(*e*) Write in detail multi-orifice centrifugal apparatus used in manufacturing of microencapsulation.

(*f*) Write in brief about sonicated unilamellar vesicles method in liposomes.

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CJ—16—2019

FACULTY OF SCIENCE AND TECHNOLOGY

B.Pharm. (VIII Semester) EXAMINATION

MARCH/APRIL, 2019

MEDICINAL CHEMISTRY–IV

Paper BPH-82

(Thursday, 25-4-2019) **Time : 2.00 p.m. to 4.00 p.m.**

Time—Two Hours *Maximum Marks*—50

N.B. :— (*i*) *All* questions are compulsory.

(*ii*) Answer to the point only.

(*iii*) Draw structure and reactions wherever necessary.

1. Solve any *five* of the following : 10

(*a*) Give outline synthesis of ethionamide.

(*b*) Write names of any *two* drugs acts on :

(*i*) Mycobacterial cell wall.

(*ii*) Fungal cell wall.

(*c*) Give the MOA of Tinidazole as antiamoebic agents.

(*d*) Draw structure and IUPAC name of Mebendazole.

(*e*) Classify antileprotic agent on the chemical basis.

(*f*) Draw the structure of drug containing nitroimidazole class of antiamoebic agent.

(*g*) Draw the structure and give the systemic name of Pyrimethamine.

2. Solve any *four* of the following : 4×3=12

(*a*) Write a short note on Tripano Somicidal agent.

P.T.O.

(*b*) Write on importance of combinatorial chemistry.

(*c*) Give the outline synthesis of clo-trimazole as an antifungal agent.

(*d*) Give the synthetic pathway of chloroquine.

(*e*) Enlist important factors affecting on metabolism. Add a note on methylation conjugation.

(*f*) What is MDR-TB ? What are the advantages of combination therapy on MDR-TB ?

3. Solve any *four* of the following : 4×7=28

(*a*) Write chemical classification of anti-malarial drug with suitable example. Add a note on chemistry and SAR of 4-Amino quinoline class of antimalarial agent.

(*b*) Write reactions with suitable example for the following of metabolism :

(*i*) Hydrolysis

(*ii*) Glucoronide conjugation

(*iii*) Sulphate conjugation.

(*c*) Write the name of specific enzymatic or cellular target for the following :

(*i*) Suramine

(*ii*) Niclosamide

(*iii*) Ethambutol

(*iv*) Amodioquine

(*v*) PAS

(*vi*) Pyrantal

(*vii*) Diloxinide furoate.

(*d*) Give the outline synthetic pathway of the following :

(*i*) INH

(*ii*) Tolnaftate

(*iii*) Diethylcarbamazine citrate.

(*e*) Draw the nucleus structure of the following :

(*i*) Flucytosine

(*ii*) Lucanthone

(*iii*) Primaquine

(*iv*) Clofazimine

(*v*) Cycloguanil

(*vi*) Dapsone

(*vii*) Metronidazole.

(*f*) (*i*) Draw malarial life cycle. Add a note on targets of antimalarial drugs in malarial life cycle.

(*ii*) Write nomenclature of cyp450.

This question paper contains 2 printed pages]

CJ—24—2019

FACULTY OF PHARMACEUTICAL SCIENCE

B.Pharma. (Final Year) (Eighth Semester) EXAMINATION

MARCH/APRIL, 2019

PHARMACOKINETICS AND ITS CLINICAL APPLICATION

(Saturday, 27-4-2019) (BPH-837) **Time : 2.00 p.m. to 4.00 p.m.**

Time— Two Hours *Maximum Marks*—50

N.B. :— (*i*) *All* questions are compulsory.

(*ii*) Answer to the point only.

(*iii*) Figures to the right indicate full marks.

1. Solve any *five* of the following : 5×2=10

(*a*) Quote examples of beneficial drug interactions.

(*b*) What are the various pharmacodynamic parameters ?

(*c*) Quote examples of zero-order rate processes.

(*d*) In compartment modelling, what does the term open mean ?

(*e*) Define clearance, total body clearance and organ clearance.

(*f*) Define bio-availability. What are the objectives of bioavailability studies?

(*g*) What is the basic difference between absolute and relative bioavailability.

2. Solve any *four* of the following : 4×3=12

(*a*) Define drug interaction. Explain how drug interaction are of great concern in drug therapy.

(*b*) What are mixed order processes ? By what other names such processes are identified ? Quote example of such processes.

(*c*) What are the various categories of drug interactions ?

(*d*) What are the merits and demerits of Wagner-Nelson method in computing Ka ?

P.T.O.

(e) Define dose-dependent kinetics. Quote simple tests by which it can be detected in rate process.

(f) In a bioavailability study, explain how determination of both rate and extent of absorption are important.

3. Solve any *four* of the following : 4×7=28

(a) What are two major mechanisms by which drug-drug interactions can develop ? Which one is more common of the two?

(b) What are pharmacokinetic models ? What is the importance and utility of developing such models ? Discuss briefly the types of pharmacokinetic models.

(c) What are *two* methods for calculating K_E from Urinary excretion data? Compare their merits and demerits.

(d) Discuss the kinetics of capacity limited process by Michaelis-Menten equation.

(e) What are the various types of bioeqivalence studies ?

(f) Explain in detail the steps involved in individualization of dosage regimen.

This question paper contains 2 printed pages]

CJ—32—2019

FACULTY OF PHARMACEUTICAL SCIENCES

B.Pharmacy (Eighth Semester) EXAMINATION

MARCH/APRIL, 2019

POTENTIALS OF HERBAL BASED INDUSTRIES

(Tuesday, 30-4-2019) (BPH-84) **Time : 10.00 a.m. to 12.00 noon**

Time—2 *Hours* *Maximum Marks*—50

N.B. :— (*i*) *All* questions are compulsory.

(*ii*) Figures to the right indicate full marks.

(*iii*) Answer to the point only.

1. Solve any *five* of the following : 5×2=10

(*i*) Write the utilization of calcium sennosides.

(*ii*) Write any *two* examples of natural pesticides.

(*iii*) Write the names of any *four* institutions involved in the work of medicinal and aromatic plants.

(*iv*) What is diversity ?

(*v*) Define marine pharmacognosy and organic forming.

(*vi*) Write the soil requirement for cultivation of Ginger and Tamarind.

(*vii*) Write the names of any *four* endangered species of medicinal plants in India.

2. Solve any *four* of the following : 4×3=12

(*i*) Give the advantages of marine pharmacognosy over the traditional crude drugs.

(*ii*) Write the export potential of pomegranate.

(*iii*) Write the threats to diversity in India.

(*iv*) Give the applications of UV spectroscopy in natural products.

(*v*) Write the advantages of Germ plasm conservation.

(*vi*) Write the cultivation and collection of Nutmeg.

P.T.O.

3. Solve any *four* of the following : 28

(*i*) Write the importance of organic farming.

(*ii*) Write the role of medicinal plants and aromatic plants in national economy.

(*iii*) Write the industrial extraction method for Ginger.

(*iv*) What are the objectives of AYUSH. Write the role of AYUSH in overcoming status of Ayurveda in India.

(*v*) Write the applications of IR and NMR. spectroscopy in natural products.

(*vi*) Write the utilization and production of Quinine.

This question paper contains 2 printed pages]

CJ—40—2019

FACULTY OF SCIENCE AND TECHNOLOGY

B.Pharmacy (Final Year) (Eighth Semester) EXAMINATION

MAY/JUNE, 2019

MOLECULAR SPECTROSCOPY

Paper BPH-85

(Friday, 3-5-2019) **Time : 2.00 p.m. to 4.00 p.m.**

Time—2 *Hours* *Maximum Marks*—50

N.B. :— (*i*) *All* questions are compulsory.

(*ii*) Your answer should be specific to the questions asked.

(*iii*) Draw neat labelled diagram wherever necessary.

1. Solve any *five* of the following : 5×2=10

(*a*) Why is region below 200 nm also called as Vacuum UV-region ?

(*b*) Name the *two* reference standards used in PMR-spectroscopy.

(*c*) State Hooke's law.

(*d*) What do you mean by base peak ?

(*e*) Enlist different types of hyphenated techniques.

(*f*) Define :

(*i*) Red shift

(*ii*) Auxochrome.

(*g*) Why can C_6^{12} not show NMR spectrum ?

2. Solve any *four* of the following : 4×3=12

(*a*) Give types of mass detectors used in mass spectroscopy.

(*b*) Give limitations of beer-Lambert law.

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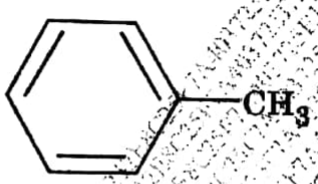
(c) Write a note on spin-spin coupling with suitable example.

(d) Give significance of GC-MS technique.

(e) Write the various infrared bands in the following compound :



(f) Describe any *three* radiation sources in IR spectroscopy.

3. Solve any *four* of the following : 4×7=28

(a) Explain the electronic transitions involved in UV-visible spectroscopy.

(b) Give the instrumentation of NMR-spectroscopy.

(c) Describe in detail about interpretation rules in mass spectrometry.

(d) Discuss applications of IR-spectroscopy.

(e) Explain different types of absorption bands in UV and visible spectroscopy.

(f) Explain the following :

(i) Shielding and deshielding effect

(ii) Sampling of solid, liquid or gases in IR spectroscopy.

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CJ—48—2019

FACULTY OF SCIENCE AND TECHNOLOGY

B.Pharm. (Final Year) (VIII Semester) EXAMINATION

MAY/JUNE, 2019

TOTAL QUALITY MANAGEMENT

(Monday, 6-5-2019) CBPH-863 **Time : 2.00 p.m. to 4.00 p.m.**

Time—Two Hours *Maximum Marks*—50

N.B. :— (*i*) *All* questions are compulsory.

(*ii*) Figures to the right indicate full marks.

1. Solve any *five* of the following : 5×2=10

(*a*) Define leader.

(*b*) What is quality ?

(*c*) Define customer and supplier.

(*d*) Define quality control.

(*e*) What is Juran's quality triology ?

(*f*) Define total quality management.

(*g*) Define GLP.

2. Solve any *four* of the following : 4×3=12

(*a*) Discuss warehouse and quality control area as per GMP.

(*b*) Explain the Fishbone diagram with an example as a quality tool.

(*c*) What is leadership ? Explain factor of leadership.

(*d*) Differentiate between HRD and HRM.

(*e*) Define strategic planning. Explain strategic planning process.

(*f*) Explain Kaizen principle for quality.

P.T.O.

3. Solve any *four* of the following : 4×7=28

(*a*) Give the general requirement of good manufacturing practices for pharmaceutical products.

(*b*) Explain in detail selection of vendor with an example.

(*c*) Describe government regulation of quality.

(*d*) Discuss basic *seven* tools of quality.

(*e*) What is six sigma ? Explain process of six sigma in industry.

(*f*) What is quality audit ? Explain the process of audit in industry.

This question paper contains 2 printed pages]

CJ—55—2019

FACULTY OF SCIENCES AND TECHNOLOGY

B.Pharm. (Eight Semester) EXAMINATION

APRIL/MAY, 2019

CLINICAL PHARMACY & DRUG INTERACTION

(Wednesday, 8-5-2019) CBPH-87) **Time : 2.00 p.m. to 4.00 p.m.**

Time— Two Hours *Maximum Marks*—50

N.B. :— (*i*) *All* the questions are compulsory.

(*ii*) Figures to the right indicate full marks.

1. Solve any *five* of the following : 5×2=10

(*a*) What is medication counselling ?

(*b*) Enlist problems associated with drug use in India.

(*c*) What is rational drug use ?

(*d*) Define antidote. Give any two example.

(*e*) Write functions of institutional ethical committee.

(*f*) What are investigational drugs ?

(*g*) Define clinical pharmacy

2. Solve any four of the following : 4×3=12

(*a*) Discuss problems associated with drug use in India.

(*b*) Write general guidelines for rational prescribing of important medications.

(*c*) Write mechanism & Possible effects of Acyclovir + Pethidine drug interaction.

(*d*) Write mechanism & Possible effects of Penicillin + Probenecid drug interaction.

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(e) Write mechanism & Possible effects of alcohol + diazepam drug interaction.

(f) What is medication efficacy & Safety ? Define adverse effects.

3. Solve any four of the following : 7×4=28

(a) Discuss role of pharmacists in promoting rational drug use ?

(b) Write management of intravenous drug administration ?

(c) Discuss general methods for the treatment of poisoning ?

(d) Discuss drug therapy during lactation & labour ?

(e) Write Clinical Significance of Potential drug interaction ?

(f) Discuss role of pharmacists in development of new drug ?

This question paper contains 2 printed pages]

BD—1—2019

FACULTY OF SCIENCE AND TECHNOLOGY

B.Pharmacy (Fourth Year) EXAMINATION

MARCH/APRIL, 2019

ENVIRONMENTAL STUDIES

(Monday, 22-4-2019) (BPH-88) **Time : 10.00 a.m. to 12.30 p.m.**

Time—2½ *Hours* *Maximum Marks*—80

N.B. :— (*i*) Attempt *All* questions.

(*ii*) *All* questions carry equal marks.

(*iii*) Draw neat and well labelled diagrams wherever necessary.

1. Attempt any *two* of the following : 20

   (*a*) Explain lake ecosystem.

   (*b*) Explain ecological pyramids.

   (*c*) Discuss food chain.

   (*d*) Comment on conservation of biodiversity.

2. Write a note on natural resources. 20

   Or

   Write a note on "India as Mega Diversity Nation".

3. What are biotic and abiotic components of an ecosystem. 20

   Or

   What is noise pollution ? Explain the effects and control measures.

P.T.O.

4. Write short notes on any *four* of the following : 20

(*a*) Genetic diversity

(*b*) Flood

(*c*) Solid waste

(*d*) Consumer

(*e*) Uses of water

(*f*) Desertification.