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CZ—8—2018

FACULTY OF PHARMACEUTICAL SCIENCES AND TECHNOLOGY

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

MARCH/APRIL, 2018

NDDS AND TARGETED DDS

(B.PH-81)

(Saturday, 21-4-2018) **Time : 2.00 p.m. to 5.00 p.m.**

Time—2 *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.

(*iv*) Illustrate your answers with neat sketch wherever necessary.

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

   (*a*) Give classification of Novel Drug Delivery System.

   (*b*) Define Polymers.

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

   (*d*) Mention different factors affecting mucoadhesion.

   (*e*) Enlist different methods of preparation of microencapsulation.

   (*f*) Mention methods of preparation of resealed erythrocytes.

   (*g*) Give components of Liposomes.

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

   (*a*) Write in brief concept of osmosis.

   (*b*) Describe physiology of colon.

   (*c*) Write in brief spray drying and congealing method.

   (*d*) Mention methods for loading drug into Neosomes. Explain active trapping technique.

P.T.O.

(*e*) Give applications of microencapsulation.

(*f*) Write a note on "difficulties in colonic drug delivery system".

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

(*a*) Mention approaches of implantable drug delivery. Write osmotic pressure activated drug delivery.

(*b*) Describe erodible inserts.

(*c*) Write different polymers used in mycoadhesive drug delivery system.

(*d*) Give advantages and disadvantages of Resealed erythrocytes.

(*e*) Give applications of liposomes.

(*f*) Explain Wurster air suspension apparatus used in microencapsulation.

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CZ—16—2018

FACULTY OF PHARMACEUTICAL SCIENCE

B.Pharm. (Eighth Semester) EXAMINATION

MARCH/APRIL, 2018

MEDICINAL CHEMISTRY—IV

(BPH-082)

(Tuesday, 24-4-2018) **Time : 2.00 p.m. to 4.00 p.m.**

Time—2 *Hours* *Maximum Marks*—50

N.B. :— (*i*) Write *all* answer to the point only.

(*ii*) Draw structure and write reaction wherever necessary.

(*iii*) Support your answer with suitable example.

1. Write answers of the following questions (any *five*) : 5×2=10

(*i*) Enlist the name of drug (4) which show 1st pass effect.

(*ii*) Write IUPAC name and draw structure of lucanthone.

(*iii*) Write reaction for the synthesis of Dapsone.

(*iv*) Write chemistry of metronidazole.

(*v*) Draw structure and write IUPAC name of tolnaftate.

(*vi*) Write name of any *two* drugs which acts on :

(*a*) Fungal cell wall

(*b*) Mycobacterium cell wall.

(*vii*) Write reaction for the synthesis of ethionamide.

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

(*i*) Write principle and applications of combinatorial chemistry.

(*ii*) Draw malarial life cycle. Add a note on targets of anti-malarial drugs in malaria life cycle.

P.T.O.

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(*iii*) Write the reaction for the synthesis of metronidazole.

(*iv*) What is MDR-TB ? Write name of any *four* drugs used for the same.

(*v*) Enlist important tripanosomicidal agents. Explain chemistry of any *one*.

(*vi*) Enlist important factors affecting on metabolism. Add a note on slow and fast acytilation.

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

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

(*a*) Oxidation

(*b*) Reduction

(*c*) Glucoronide conjugation.

(*ii*) Write chemical classification of antimalarial drugs. Add a note on chemistry and SAR of chloroquine.

(*iii*) Write about chemistry, nomenclature and fate of CYP-450.

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

(*a*) Cycloguanil

(*b*) Diloxamide

(*c*) Metronidazole

(*d*) PAS

(*e*) Flucytosine

(*f*) Clofazimine

(*g*) Pyrimethamine.

(*v*) Write the name of specific enzymatic or cellular targets for the following :

(*a*) Primaquine

(*b*) Tinidazole

(*c*) Niclosamide

(*d*) Ethambutol

(*e*) Dapsone

(*f*) Clotrimazole

(*g*) Suramine.

(*vi*) Write the rational for use of combination therapy according to WHO (class 1-4 patients) tuberculosis patients.

(*vii*) Write the rationale for the following combinations :

(*a*) INH and Pyridoxine

(*b*) Niclosamide and salide purge.

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CZ—24—2018

FACULTY OF PHARMACEUTICAL SCIENCES

B.Pharm. (VIII Semester) EXAMINATION

MARCH/APRIL, 2018

PHARMACOKINETICS & ITS CLINICAL APPLICATION

(Thursday, 26-04-2018) **Time : 2.00 p.m. to 4.00 p.m.**

Time—2 Hours *Maximum Marks*—50

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

(*ii*) Draw diagrams wherever necessary.

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

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

(*a*) Give examples of zero-order processes.

(*b*) Define different pharmacodynamic parameters.

(*c*) In compartment modelling. What does the term 'open' mean ?

(*d*) Define relative and absolute bioavailability.

(*e*) Quote example of drug showing non-linearity in absorption.

(*f*) Define bioequivalence and therapeutic equivalence.

(*g*) Give the applications of pharmacokinetic principles.

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

(*a*) Give the advantages and disadvantages of compartment modelling.

(*b*) What is bioequivalence ? Give the need for bioequivalence study.

(*c*) Define drug interaction. Give its types.

(*d*) State simple tests to detect non-linearity in pharmacokinetics.

(*e*) Explain solid dispersion method for enhancing bioavailability.

(*f*) Define important pharmacokinetic parameters.

P.T.O.

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

(*a*) Give the Michaelis-Menten equation. How can Km and V_{max} be estimated.

(*b*) Explain the physiologic modelling approaches to pharmacokinetic analysis of experimental data.

(*c*) Derive the Wagner-Nelson method in computing Ka.

(*d*) Explain different method of measurement of bioavailability.

(*e*) Explain the one-compartment open model for intravenous bolus administration.

(*f*) Write about different types of drug-drug interactions.

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CZ—32—2018

FACULTY OF PHARMACEUTICAL SCIENCES

B.Pharm. (Eighth Semester) EXAMINATION

MARCH/APRIL, 2018

POTENTIALS OF HERBAL BASED INDUSTRY

(Saturday, 28-4-2018) **Time : 2.00 p.m. to 4.00 p.m.**

Time—2 *Hours* *Maximum Marks*—50

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

(*ii*) Answer to the point only.

(*iii*) Draw the diagrams wherever necessary.

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

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

(*i*) Write *two* examples of natural pesticides.

(*ii*) Give the utilization of tropane alkaloids.

(*iii*) Give the soil requirements for cultivation of Turmeric and Garlic.

(*iv*) Define Marine Pharmacognosy and Organic Farming.

(*v*) Write any *four* endangered medicinal plants of India.

(*vi*) Write the names of any *four* industries involved in medicinal and aromatic plants work in India.

(*vii*) What is biodiversity ?

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

(*i*) Give the cultivation, collection and preservation of curry leaf.

(*ii*) Write the advantages of Marine Pharmacognosy over the traditional crude drugs.

(*iii*) Write the threats to biodiversity.

(*iv*) Give the application of mass spectroscopy in natural products.

P.T.O.

(*v*) Write the advantages of Germ Plasm Conservation.

(*vi*) Give the classification of newer medicinal agents from marine sources.

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

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

(*ii*) Give the applications of UV and IR spectroscopy in natural products.

(*iii*) What is the importance of organic farming of medicinal plants in India ?

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

(*v*) Write the industrial extraction method for diosgenin.

(*vi*) Give the objectives of AYUSH. Write the role of Ayush in overcoming hurdles for Ayurvedic medicines in global market.

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CZ—40—2018

FACULTY OF PHARMACEUTICAL SCIENCES AND TECHNOLOGY

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

MAY/JUNE, 2018

MOLECULAR SPECTROSCOPY

(Thursday, 3-5-2018) **Time : 2.00 p.m. to 4.00 p.m.**

Time—2 *Hours* *Maximum Marks*—50

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

(*ii*) Illustrate your answers with neat sketches wherever necessary.

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

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

(*a*) Why is TMS used as a reference substance in NMR Spectroscopy ?

(*b*) Comment on Base Peak.

(*c*) Give the significance of fingerprint region in IR spectra.

(*d*) How many spin states are possible for ^{1}H nucleus ?

(*e*) State the Hooke's law.

(*f*) What do you mean by parent ion ?

(*g*) Write the principle of UV-visible spectroscopy.

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

(*a*) Enlist various types of electronic transitions involved in UV-visible spectroscopy and explain any *two*.

(*b*) Describe basic principle of mass spectroscopy.

(*c*) Describe the term 'spin-spin coupling' with suitable example.

(*d*) Write principle of GC-MS.

(*e*) Describe the various molecular vibrations which arise in molecule when IR radiation is absorbed.

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CZ—48—2018

FACULTY OF PHARMACEUTICAL SCIENCES & TECHNOLOGY

B.Pharm. (VIII Semester) EXAMINATION

APRIL/MAY, 2018

TOTAL QUALITY MANAGEMENT

Paper BPH 86

(Monday, 7-5-2018) **Time : 2.00 p.m. to 4.00 p.m.**

Time—2 Hours *Maximum Marks*—50

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

(*ii*) Write answers to the point only.

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

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

(*a*) Enlist important equipments required for manufacturing of suppositories.

(*b*) Write note on principles of TQM

(*c*) Write note on minimum area requirement for the manufacturing of Kajal and Surma.

(*d*) What is ISO ? Enlist important series of the same.

(*e*) Draw PDSA cycle.

(*f*) What is basic concept of TQM ?

(*g*) Define quality.

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

(*a*) Write a note on Kaizen principle.

(*b*) Explain quality function deployment with example.

(*c*) What is organizational structure of quality assurance ?

P.T.O.

(*d*) Write a note on difference between QA and QC.

(*e*) What is the process of supplier rating ?

(*f*) Write note on principle of GLP.

3. Write answers in detail of any *four* of the following : 4×7=28

(*a*) Explain government regulations of quality.

(*b*) Define audit. Write detail note on corrective action and follow up of audit process.

(*c*) Write in detail about GMP for Ayurveda, Sidha and Unani medicines with suitable example.

(*d*) Write in detail about six sigma.

(*e*) What are specific requirements for manufacturing of sterile products according to GMP guidelines ?

(*f*) What was the contribution of Deming and Juran in the process of TQM ?

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CZ—55—2018

FACULTY OF PHARMACEUTICAL SCIENCES AND TECHNOLOGY

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

MAY/JUNE, 2018

CLINICAL PHARMACY AND DRUG INTERACTIONS

(Friday, 11-5-2018) **Time : 2.00 p.m. to 4.00 p.m.**

Time—2 *Hours* *Maximum Marks*—50

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

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

(*iii*) Draw appropriate charts wherever necessary.

(*iv*) Answer to the point only.

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

   (*a*) Define pharmacoeconomics.

   (*b*) What is double blind technique used in clincial trial ?

   (*c*) How degree of non-compliance is expressed ?

   (*d*) Define clinical pharmacy.

   (*e*) Write *one* example of complex therapeutic regimen.

   (*f*) Enlist the drugs those inhibit enzymes.

   (*g*) Enlist role of pharmacists in clinical trial.

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

   (*a*) Discuss responsibilities of clinical pharmacists in hospital care areas.

   (*b*) Write mechanism and effect of Alcohol and Disulfiram drug interaction.

   (*c*) Write drug therapy in renal dysfunction.

   (*d*) Write mechanism and effect of Barbiturate and caffeine drug interaction.

P.T.O.

(*e*) Discuss on design of clinical trial.

(*f*) Discuss mechanism and effect of Amoxicillin and clavulanic acid drug interaction.

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

(*a*) What is drug information ? Discuss major functions of drug information centre.

(*b*) What is patient compliance ? Discuss various strategies for improving compliance.

(*c*) Discuss drug therapy during pregnancy.

(*d*) Define drug interaction. Discuss drug interaction due to alteration of GI absorption with appropriate example.

(*e*) Write strategies for improving rational use of drugs.

(*f*) Give general principles of management of drug poisoning.

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BS—1—2018

FACULTY OF ALL FACULTY

B.Pharm. (Fourth Year) EXAMINATION

MARCH/APRIL, 2018

ENVIRONMENTAL STUDIES

(Friday, 20-4-2018) **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 diagram wherever necessary.

(*i*) **सर्व** प्रश्न सोडवा.

(*ii*) **सर्व** प्रश्नांना समान गुण आहेत.

(*iii*) आवश्यक तेथे नामनिर्देशित आकृती काढणे गरजेचे आहे.

1. Attempt any *two* of the following :

(*a*) Land as resource

(*b*) Use of water

(*c*) Conservation of biodiversity

(*d*) Ecological succession.

खालीलपैकी कोणत्याही **दोन** प्रश्नांची उत्तरे लिहा :

(*a*) जमिन एक नैसर्गिक संसाधन

(*b*) पाण्याचे विविध उपयोग

(*c*) जैवविविधतचे संवर्धन

(*d*) पारिस्थितिकी अनुक्रम.

2. Explain India as megadiversity nation.

भारत हा जैवविविधतेने नटलेला देश आहे. विशद करा.

Or

(किंवा)

Describe in detail Human Rights.

मानवीहक्क यावर विस्तृत चर्चा करा.

P.T.O.

3. Write in detail causes and effects of noise pollution.
ध्वनि प्रदूषणाचे कारणे व परिणाम स्पष्ट करा.

Or

(किंवा)

Explain grassland ecosystem.
गवताळ परिसंस्था विस्तृतपणे विशद करा.

4. Write short notes on the following (any *four*) :

(*a*) Salinity

(*b*) Value of biodiversity

(*c*) Food chain

(*d*) Waterlogging

(*e*) Soil erosion.

खालीलपैकी कोणत्याही **चार**वर थोडक्यात टिपा लिहा :

(अ) क्षारता

(ब) जैवविविधतेचे महत्त्व

(क) अन्नसाखळी

(ड) पाणथळ जमीन

(इ) जमिनीची धुप.