## CC—06—2017

### FACULTY OF PHARMACEUTICAL SCIENCE AND TECHNOLOGY

B.Pharm. (Third Year) (Sixth Semester) EXAMINATION

MARCH/APRIL, 2017

PHARMACEUTICAL TECHNOLOGY-I

(Dosage Form Design—II)

**(Wednesday, 12-4-2017)**                    **Time : 10.00 a.m. to 12.00 noon**

*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)  What are co-solvents ? Give *two* examples of them.

(b)  Give examples of water miscible and water immiscible vehicles for injection.

(c)  What are paratonic solutions ?

(d)  Enlist the mechanism by which emulsifying agent acts.

(e)  Enlist different additives to be added in suspension.

(f)  What are different preservatives used in oral solution. Give examples.

(g)  Define emulsion.

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

(a)  Give advantages and disadvantages of solution dosage form.

(b)  Write about flavours used in oral solutions.

(c)  What is parenteral nutrition therapy ?

(d)  Compare flocculated and defloculated suspension.

(e)  Give HLB classification of emulsifying agents with examples of each class.

(f)  Give different reasons for adjustment of pH of injections.

P.T.O.

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

   (a) What factors are to be considered while formulation of suspension for injection ?

   (b) Explain with examples advantages and disadvantages of suspension.

   (c) Give advantages and disadvantages of injections over other dosage forms.

   (d) The greater the concentration of the emulsifying agent, the higher will be viscosity of the product. True or False. Justify.

   (e) Write about water immiscible vehicles for injection.

   (f) Write about selection of organoleptic additives for oral solution.

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# CC—12—2017

## FACULTY OF PHARMACEUTICAL SCIENCES

### B.Pharm. (Third Year) (Sixth Semester) EXAMINATION

### MARCH/APRIL, 2017

### PHARMACEUTICAL TECHNOLOGY-II

Paper BPH-62 (DFM-II)

**(Monday, 17-4-2017)**          **Time : 10.00 a.m. to 12.00 noon**

*Time—Two 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.

(iv) Answer to the point only.

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

    (a) Give the advantages of suspension.

    (b) Give the importance of pH adjustment of solutions.

    (c) Enlist IPQC test for parenterals.

    (d) What is floculated suspension ?

    (e) Give the principle of colloidal mill.

    (f) What is class 1,000 area ?

    (g) Enlist any *four* Emulsifying agents used in emulsion.

2. Solve any *four* of the following :        12

    (a) Differentiate between flocculated and deflocculated suspension.

    (b) Explain the working and principle of Homogenizer.

    (c) Why creaming in emulsion is not considered as a mark of instability of an emulsion ?

    (d) Explain the flow diagram for manufacturing of small volume parenterals.

    (e) Write a note on compounding procedures of solution.

    (f) Write the role of zeta potential in the formulation of suspention.

**P.T.O.**

3. Solve any *four* of the following :

(a) Explain various physical and biological indicators in IPQC of parenterals.

(b) Explain the DLVO theory in suspension.

(c) Explain in IPQC test of solution with their significance.

(d) Explain the evaluation test for emulsion.

(e) Explain the effect of the following stresses of the stability of emulsion.

   (i) Temperature change;

   (ii) Timing;

   (iii) Agitation.

(f) Explain factors affecting the settling in suspension.

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# CC—18—2017

## FACULTY OF PHARMACEUTICAL SCIENCES

B.Pharma. (Third Year) (Sixth Semester) EXAMINATION

APRIL/MAY, 2017

MEDICINAL CHEMISTRY—II

(Friday, 5-5-2017)                                    Time : 10.00 a.m. to 12.00 noon

*Time—2 Hours*                                         *Maximum Marks—50*

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

(ii)  Write reaction(s) and draw structure(s) wherever necessary.

(iii) Numbers to the right indicate full marks.

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

(a)   Draw structure. Write IUPAC name of acetazolamide.

(b)   Write MOA of aspirin as anticoagulant.

(c)   Write the receptor site for the following drugs :

(i)   Piroxicam

(ii)  Chlorpropamide

(iii) Propranol

(iv)  Heparin.

(d)   Compare structure of prednisol and prednisolone.

(e)   Write note on adrenocorticoides.

(f)   Name the heterocyclic ring present in paracetamol and triamcinolone.

(g)   Draw structure and write IUPAC name of diclofenac.

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

(a)   Draw structure of progestrone. Add a note on its MOA.

(b)   Write chemistry of cardiac glycosides.

(c)   Write reaction for synthesis of verapamil.

P.T.O.

(d) Compare chemistry of testosterone and methyl testosterone in terms of its pharmacology action.

(e) Draw structure of quinidine. Write its therpatic uses.

(f) Draw structure. Write IUPAC name and site of action of hydrochlorthiazide.

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

(a) Write SAR of steroides with suitable examples.

(b) Write reaction for synthesis of Nifedipine and mexilitine. Write IUPAC name of both.

(c) Write chemistry of prostaglandins with suitable examples.

(d) Give classification of NSAIDs with suitable example.

(e) Write note on biosynthesis and chemistry of Insulin.

(f) Classify drugs acting on CVS. Draw one structure of each category.

## CC—24—2017

### FACULTY OF PHARMACEUTICAL SCIENCES

B.Pharm. (Third Year) (Sixth Semester) EXAMINATION

MARCH/APRIL, 2017

CHEMOTHERAPY OF ANTI-INFECTIVE AND NEOPLASTIC DISEASE

BPH 64

**(Friday, 21-4-2017)**                    **Time : 10.00 a.m. to 12.00 noon**

*Time— Two Hours*                                    *Maximum Marks—75*

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

(ii)   Draw neat labelled diagram whenever necessary.

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

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

(a)   What are antitubercular agent ?

(b)   Define chemotherapy.

(c)   What is bactericidal and bacteriostatic ?

(d)   What are sulphonamide.

(e)   Give the therapeutic uses of the following :

(i)   Erythromycin

(ii)   Amphotericin.

(f)   What is syphilis ?

(g)   Define Neoplasia. Give its types.

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

(a)   Classify sulphonamide according to therapeutic uses.

(b)   Write the pharmacology of Aminoglycoside.

(c)   Classify antifungal agent.

(d)   Classify antipleprotic.

P.T.O.

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    (e)    Give the pharmacotherapy of urinary tract infection.

    (f)    Classify antibiotic according to MAO.

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

    (a)    Classify antimalarial. Write pharmacology of chloroquine.

    (b)    Classify antineoplastic. Write the pharmacology of alkylating agent.

    (c)    Classify Penicillin according to their spectrum of activity. Write pharmacology of broad spectrum penicillium.

    (d)    Classify tetracyclines. Write pharmacology of Doxycyclines.

    (e)    Write pharmacology account of co-trimoxazole.

    (f)    Explain the various principles of chemotherapy.

## CC—30—2017

# FACULTY OF PHARMACEUTICAL SCIENCES AND TECHNOLOGY

## B. Pharm. (Sixth Semester) EXAMINATION

### MARCH/APRIL, 2017

### SEPARATION TECHNOLOGY

(Monday, 24-4-2017)                              Time : 10.00 a.m. to 12.00 noon

**Time—Two Hours**                                         *Maximum Marks*—50

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

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

(iii)  Draw neat labelled diagrams wherever necessary.

(iv)  Figures to the right indicate full marks.

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

(a)   Give *two* methods of visualization of the spots in paper chromatography.

(b)   What do you mean by reverse phase chromatography ?

(c)   State distribution law.

(d)   Give ideal requirements of gel used in gel chromatography.

(e)   Write principle involved in high performance liquid chromatography.

(f)   Sketch a neat labelled diagram of Gas chromatography.

(g)   Enlist advantages of PTGC.

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

(a)   Write applications of column chromatography.

(b)   How is activation of TLC plate done ?

(c)   Describe continuous extraction process.

(d)   What are requirements for ion exchange resins used in chromatography.

(e)   Give classification of gels used in chromatography with suitable examples.

(f)   Write principle of Gas Chromatography.

P.T.O.

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

(a) Explain in detail about Craig apparatus.

(b) Write experimental technique of TLC.

(c) Describe factors influencing HPTLC separation.

(d) Write physical properties of ion exchange resins. Give applications of ion exchange chromatography.

(e) Explain different types of pump used in HPLC.

(f) Write applications of Gas Chromatography.

## CC—36—2017

### FACULTY OF PHARMACEUTICAL SCIENCES AND TECHNOLOGY
#### B. Pharm. (Third Year) (Sixth Semester) EXAMINATION
#### MARCH/APRIL, 2017
#### CHEMISTRY OF NATURAL PRODUCTS
#### Paper BPH-66

(Wednesday, 26-4-2017)　　　　　　　　　　Time : 10.00 a.m. to 12.00 noon

*Time—Two Hours*　　　　　　　　　　　　　　　*Maximum Marks—50*

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

　　　　(ii)　Figures to the right indicate full marks.

　　　　(iii)　Draw well labelled diagrams wherever necessary.

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

　　(a)　Give identification test for Tropane alkaloid.

　　(b)　Define primary metabolites and secondary metabolites.

　　(c)　Write any *four* adulterants of Nux-vomica seed.

　　(d)　Give Biological source and uses of physostigma.

　　(e)　Draw chemical structure of Abietic acid and Zinzibereane.

　　(f)　Draw well labelled diagram of T.S. of Cinchona.

　　(g)　Give synonyms and chemical constituents of Areca.

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

　　(a)　Describe the life cycle of Ergot.

　　(b)　Discuss biosynthetic pathway of Papaverene.

　　(c)　Differentiate between microscopic characterstics of Vinca leaf and Datura leaf.

　　(d)　Give Biological source, chemical constituents and uses of Kurchi bark.

　　(e)　Draw a chemical structure of :

　　　　(i)　Digitoxin

　　　　(ii)　Ephedrine

　　　　(iii)　Atropine.

　　(f)　Describe commercial varieties of Opium.

P.T.O.

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

(a) Discuss pharmacognostic account of Rauwolfia.

(b) Explain Biosynthetic pathway of morphine.

(c) Discuss chemistry and write pharmacological activities of carotenes.

(d) Write biological source, chemical constituents and chemical tests for :

(i) Withania

(ii) Ephedra.

(e) Discuss chemistry of carvone.

(f) Discuss general biosynthetic pathway for fatty acids.

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# CC—41—2017

## FACULTY OF PHARMACY

### B. Pharm. (Sixth Semester) EXAMINATION
### MARCH/APRIL, 2017
### BIOTECHNOLOGY OF PHARMACEUTICAL PRODUCTS
Paper BPH-67

(Friday, 28-4-2017)          **Time : 10.00 a.m. to 12.00 noon**

*Time—Two Hours*          *Maximum Marks*—50

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

       (ii)   Illustrate your answers with neat sketch wherever necessary.

       (iii)   Figures to the right indicate full marks.

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

   (a)   Define Nucleic Acid.

   (b)   Define Gene.

   (c)   What is restriction Endonuclease ?

   (d)   Define enzyme immobilization.

   (e)   What is Bacteriophase ?

   (f)   Enlist screening techniques.

   (g)   Define Enzyme.

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

   (a)   Describe genetic code.

   (b)   Differentiate between Cloning and Expression

   (c)   Explain process of inoculum preparation.

   (d)   Explain how Vit. $B_{12}$ recovered at the end of fermentation.

   (e)   Write on :

      (i)   E. Coli plasmid

      (ii)   Bacteriophase vector.

   (f)   Explain types of Restriction Endonucleases.

P.T.O.

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

(a) How do nucleic acid store and transfer the information ?

(b) Explain the term gene Regulation.

(c) Explain media composition and inoculum preparation in fermentation.

(d) Give different criteria used to design an ideal cloning vector.

(e) Explain PCR techniques and its aplications.

(f) Define Biotechnology. Explain how it helps in development of different fields of science.

CC—45—2017

# FACULTY OF PHARMACEUTICAL SCIENCES AND TECHNOLOGY
## B. Pharm. (Third Year) (Sixth Semester) EXAMINATION
## APRIL/MAY, 2017
### LAWS GOVERNING TRADE AND COMMERCE OF PHARMACEUTICALS
Paper BPH-68

(Wednesday, 3-5-2017)        **Time : 10.00 a.m. to 12.00 noon**

Time—Two Hours        *Maximum Marks—50*

N.B. :—  (i)   Answer to the point only.

      (ii)   All questions are compulsory.

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

    (a)   Define :

        (i)   Displaced person

        (ii)   Drug.

    (b)   What is spurious drugs ?

    (c)   Give the *four* names of psychotropic drugs.

    (d)   Write offences and penalties of Drugs and Magic Remedies Act, 1954.

    (e)   Enlist different types of patent.

    (f)   What is Pharmacy ?

    (g)   Give the names of Schedule 'C' drugs.

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

    (a)   Give the functions of Pharmacy Council of India.

    (b)   Which points should consider during fixing of the sale prices of bulk drugs.

    (c)   Write the conditions for grant or renewal of Licence.

    (d)   How to prohibit, control and regulate narcotic drugs ?

    (e)   Give the classes of exempted advertisement under Drug and Magic Remedies Act, 1954.

    (f)   Discuss about Schedule 'N'.

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

   (a) Discuss in detail about Registration of Pharmacist.

   (b) Describe in brief about Drug Inspectors.

   (c) Write about offences and penalties of Narcotic Drugs and Psycotropic Substances Act, 1985.

   (d) Explain in brief about import and registration of a drug in D and C Act, 1940.

   (e) What are Schedule 'F' ? Explain in brief about it.

   (f) How to calculate retail price of a formulation and also give power to fix retail price of schedule formulation.

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