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DF—04—2018

FACULTY OF PHARMACEUTICAL SCIENCE AND TECHNOLOGY

M. Pharm. (Second Semester) EXAMINATION

MARCH/APRIL, 2018

MOLECULAR PHARMACEUTICS

Paper MPH-201T

(Nano Technology Targeted DDS)

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

Time—3 *Hours* *Maximum Marks*—75

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

(*ii*) Answer to the point only.

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

1. Solve any *ten* 10×2=20

(*a*) What is Targeted Drug delivery system ?

(*b*) Define and classify propellants.

(*c*) Define Liposomes.

(*d*) What is Niosomes ?

(*e*) Give the advantages of microcapsules.

(*f*) Define Aerosols.

(*g*) What is pharmacokinetics ?

(*h*) What do you mean by Electrosomes ?

(*i*) Define Nano Technology.

(*j*) Enlist potential target discuss for gene therapy.

(*k*) Give the applications of monoclonal antibodies.

(*l*) Give the advantages of Intranasal Route delivery systems.

P.T.O.

2. Solve any *two* : 2×10=20

(a) Describe in detail the methods of active and passive targeting using particulate carriers.

(b) Explain in detail the preparation and evaluation of Liposomes.

(c) Explain in detail the preparation and evaluation of Intra nasal route delivery systems.

3. Solve any *seven* : 7×5=35

(a) Write in brief about Nanoparticles.

(b) Describe in detail tumor targeting.

(c) Give the preparation and application of Niosomes.

(d) What is Biodistribution ? Write a note on aptamers.

(e) Write in brief about types of containers in aerosols.

(f) Give the difference between ex-vivo and in-vivo gene therapy.

(g) Give the preparation and application of phytosomes.

(h) Write in brief about gene therapy.

(i) Explain in detail events and biological process involved in drug targeting.

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DF—10—2018

FACULTY OF PHARMACEUTICAL SCIENCE AND TECHNOLOGY

M. Pharma. (First Year) (Second Semester) EXAMINATION

MARCH/APRIL, 2018

PHARMACEUTICS

MPH 202T

(Adv. Biopharm and Pharmacokinetics)

(Tuesday, 24-4-2018) **Time : 2.00 p.m. to 5.00 p.m.**

Time—3 *Hours* *Maximum Marks*—75

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

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

(*iii*) Illustrate your answer with best sketches.

(*iv*) Answer to the point only.

1. Answer any *ten* of the following : 10×2=20

(*a*) Classify the body component to which drugs normally binds.

(*b*) What are the major differences between one compartment of two compartment model ?

(*c*) What is the role of protein binding in drug distribution ?

(*d*) What is endocytosis ? Write its types.

(*e*) What is gene therapy ?

(*f*) Write clinical significance of Bioequivalence study.

(*g*) Enlist beneficial drug interaction.

(*h*) Define therapeutic window.

(*i*) Write on monoclonal antibodies significance.

(*j*) Mention limitations of pH partition theory.

(*k*) Enlist pharmacokinetic parameters.

(*l*) Give BCS with example.

P.T.O.

2. Solve any *two* : 10×2=20

(*a*) Define clearance, total body clearance and organ clearance. What are the advantages of expressing clearance of an individual organ level.

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

(*c*) Illustrate Michaelis-Menten equation.

3. Answer any *seven* of the following : 7×5=35

(*a*) Explain the concept of Loading and maintenance dose.

(*b*) What do you understood by monitoring drug therapy in individual patient ?

(*c*) Explain *two* compartment open model I.V. bolus.

(*d*) Explain volume of distribution and discuss its significance in the context of pharmacodynamics.

(*e*) Describe the causes of non-linearity.

(*f*) Describe methods of assessment of bioavailability.

(*g*) Define drug interaction and explain its types.

(*h*) Describe physiological model.

(*i*) Describe methods of enhancement of bioavailability.

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DF—16—2018

FACULTY OF SCIENCE AND TECHNOLOGY

M. Pharm. (Second Semester) EXAMINATION

MARCH/APRIL, 2018

COMPUTER AIDED DRUG DEVELOPMENT

Paper MPH-203-T

(Wednesday, 26-4-2018) Time : 2.00 p.m. to 5.00 p.m.

Time—Three Hours *Maximum Marks—75*

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

(*ii*) Answer to the point only.

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

1. Answer any *ten* : 10×2=20

(*a*) What is process control strategy in QbD ?

(*b*) Define artificial intelligence.

(*c*) Give difference between emulsion and microemulsion.

(*d*) Give uses of computers in R & D.

(*e*) What is meant by clinical data collection management ?

(*f*) What is meant by BCRP and its function.

(*g*) What is meant by computer simulation ?

(*h*) What is optimization ?

(*i*) What is sensitivity analysis ?

(*j*) What is factorial design ?

(*k*) What is legal protection in CRDD ?

(*l*) What is the need of IVIVC ?

2. Solve any *two* 20

(*a*) Explain factorial design. Discuss various optimization technique in pharmceutical formulation and processing.

(*b*) What are regulatory and industrial views on QbD in pharmceutical development ? Explain the quality risk assessment of QTPP.

(*c*) Describe Robotics and computational fluid dynamics and give its pharmceutical application.

P.T.O.

3. Solve any *seven* of the following : 35

(a) Describe ICHQ 8 guidelines and enlist the examples of QbD approaches.

(b) Explain computer application in market analysis.

(c) What is the mechanism of BBB choline transports and application of adrenaline transfer.

(d) Describe computer simulation of isolated tissue organisms.

(e) Give advantages and disadvantages of AI.

(f) What are the uses of computer graphics in computer aided drug development ?

(g) Describe descriptive *versus* mechanistic modeling.

(h) Give application of emulsion and micro emulsion.

(i) Write the three basics of pharmaceutical drug design.

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DF—22—2018

FACULTY OF SCIENCE AND TECHNOLOGY

M.Pharm. (First Year) (Second Semester) EXAMINATION

MARCH/APRIL, 2018

COSMETICS AND COSMECEUTICALS

(MPH-204T)

(Saturday, 28-4-2018) **Time : 2.00 p.m. to 5.00 p.m.**

Time—3 *Hours* *Maximum Marks*—75

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

(*ii*) Answer to the point only.

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

1. Answer any *ten* of the following : 2×10=20

(*a*) Give some common problems associated with oral cavity.

(*b*) Define cosmetic as per Indian guidelines.

(*c*) Give ideal characteristic of vanishing cream.

(*d*) Enlist different raw material used for shampoo.

(*e*) Give general method of preparation of hair colourants.

(*f*) Draw well labelled diagram of hair.

(*g*) Give classification of perfumes.

(*h*) Give ideal characteristics of sunscreen agents.

(*i*) Give examples of herbal ingredients used in skin care.

(*j*) Define propellent along with examples.

(*k*) Define humectant along with examples.

(*l*) What is preservative ? Give *two* example of preservative used in cosmetic.

2. Solve any *two* of the following : 10×2=20

(*a*) What are various factors affecting microbial preservative efficiency with its merits and demerits.

(*b*) Mention different building blocks for formulation of vanishing cream and cold cream.

(*c*) Give formulation and manufacturing process of lipsticks.

P.T.O.

3. Solve any *seven* of the following : 7×5=35

(a) Enlist different hair care products. Write in brief about hair colorants.

(b) What are various benefits of herbs. Write in brief about herbal cosmetic for skin protection.

(c) Write short note on controversial ingredients used in cosmetic.

(d) Why should stearic acid be used during formulation of vanishing cream. Give its formula.

(e) Define perfume. Give two examples of perfumes obtained from plant and animals.

(f) Write short note on regulatory provisions relating to manufacture of cosmetic.

(g) Give application of surfactant in cosmetic.

(h) What are different conditions for obtaining licence for cosmetic.

(i) Give classification of sunscreen and mention formula for sunscreen lotion.