Registration No : | | | | | | | | | | |

Total Number of Pages : 01 **B.Pharm**
15PH701

7th Semester Regular Examination 2018-19
BIOPHARMACEUTICS AND PHARMACOKINETICS
BRANCH : B.Pharma
Time : 3 Hours
Max Marks : 100
Q Code : E003

Answer Question No.1 (Part-1) which is compulsory, any EIGHT from Part-II and any TWO from Part-III.
The figures in the right hand margin indicate marks.

Part- I

Q1 Short Answer Type Questions (Answer All-10) **(2×10)**

a) What do you mean by bioequivalence?
b) What is pharmacodynamics?
c) What is passive diffusion?
d) Give one example of acetylation reaction.
e) What are the non-renal routes of drug excretion?
f) What is active tubular secretion?
g) What are the different routes of extra-vascular administration?
h) What are the different types of dissolution testing apparatus?
i) What is volume of distribution?
j) What do you mean by clearance?

Part- II

Q2 Focused-Short Answer Type Questions- (Answer Any EIGHT out of TWELVE) **(6x8)**

a) What are the three major routes of drug administration?
b) Explain Fick's first law of diffusion.
c) Describe briefly carrier-mediated transport.
d) Describe Noyes-Whitney equation.
e) How polymorphism affects bioavailability?
f) What is pH partition hypothesis?
g) Describe shortly different physiological barriers to drug distribution.
h) What are the different sites of drug metabolism in the body? Why is liver considered as a major site for this purpose?
i) Classify the chemical pathways of drug metabolism.
j) What are the factors affecting the process of hemodialysis?
k) Why first-order processes follow linear kinetics?
l) What do you mean by total body clearance?

Part-III

Long Answer Type Questions (Answer Any TWO out of FOUR)

Q3 Describe different theories of drug dissolution. **(16)**

Q4 What are the different dosage form factors affecting drug absorption? **(16)**

Q5 What are the different factors affecting pharmacodynamics? **(16)**

Q6 What are the different approaches to enhance bioavailability from oral dosage forms? **(16)**

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Total Number of Pages : 02 **B.Pharm**
15PH702

7th Semester Regular Examination 2018-19
PHYTOCHEMISTRY
BRANCH : B.Pharma
Time : 3 Hours
Max Marks : 100
Q.CODE : E129

Answer Question No.1 which is compulsory and any FIVE from the rest.
The figures in the right hand margin indicate marks.

Part- I

Q1 **Short Answer Type Questions (Answer All-10)** **(2x10)**

a) What are terpenoids? Give example.
b) What are isoprenoids ? give examples.
c) Name two biosynthetic precursor of alkaloid.
d) Write down a chemical test to identify carotenoids.
e) What are the differences between falvones and falvonols?
f) What is provitamin? Name the provitamin of vitamin A.
g) Name a pseudo alkaloid. Mention an alkaloid having a phenanthrene ring.
h) How can you detect C-glycosides?
i) Draw the structure and mention the uses of Papaverine.
j) Name two semisynthetic penicillin. Draw the structures.

Part- II

Focused-Short Answer Type Questions- (Answer Any EIGHT out of TWELVE) **(8x6)**

Q2 **a)** Classify terpenes with examples. Mention the differences between terpene and terpenoids. **(4+2)**
b) State and explain isoprene rule with example. Mention the demerits of it. **(3+2+1)**
c) Discuss about the chemistry of cardiac glycosides. What are the differences between cardenolides and bufadenolides? **(4+2)**
d) Write down the structural elucidation of vitamin C. **(6)**
e) Write down the chemistry and pharmacological action of tropane alkaloid. **(3+3)**
f) Discuss about the therapeutic activity and structural elucidation of Tetracycline. **(6)**
g) Discuss the stereoisomerism of Atropine and Menthol. **(3+3)**
h) Write down the application of NMR spectroscopy in natural product screening. **(6)**
i) Explain the phytochemical screening of polyphenolic compounds. **(6)**
j) Write down the chemistry, biological source and uses of Ephedrine. **(6)**
k) Write about the types of chemical constituents and chemical tests of Opium alkaloids. **(6)**
l) Outline the biogenesis and uses of Penicillin. **(6)**

Part-III

Long Answer Type Questions (Answer Any TWO out of FOUR)

Q3	Discuss the role of spectroscopic technique in structural elucidation of terpenoids.	**(16)**
Q4	Write down the biological source, chemistry and uses of following: **(ANY FOUR)** Camphor, Atropine, Quercetin, Quinine, Caffeine.	**(4x4)**
Q5	Discuss about the principle and instrumentation of Mass spectroscopy. Write on soft ionization technique in Mass Spectroscopy.	**(10+6)**
Q6	Write the occurrences, chemistry and uses of vitamin A, B, C and folic acid.	**(4+4+4+4)**

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Total Number of Pages : 02 **B.Pharm**
15PH703

7th Semester Regular Examination 2018-19
PHARM. ANALYSIS-III
BRANCH : B.Pharma
Time : 3 Hours
Max Marks: 100
Q.CODE : E250

Answer Question No.1 (Part-1) which is compulsory, any EIGHT from Part-II and any TWO from Part-III.
The figures in the right hand margin indicate marks.

Part- I

Q1 Short Answer Type Questions (Answer All-10) **(2 ×10)**

a) Spectroscopy
b) Frequency
c) Wavelength
d) Wavenumber
e) Bathochromic Shift
f) Chromophore
g) TMS
h) Rf value
i) HPTLC
j) HPLC

Part- II

Q2 Focused-Short Answer Type Questions- (Answer Any EIGHT out of TWELVE)

a) Classify the Spectroscopy. What is the unit of Energy? **(5+1)**
b) Write down the wave length region of UV radiation, Visible radiation. Write down the basic theory of spectroscopy. **(2+4)**
c) Write down the Schematic diagram of IR spectrophotometer and mention the wave length region of IR radiation **(5+1)**
d) Write short note on Shielding effect and chemical shieft **(3+3)**
e) Write down the basic applications of Mass Spectroscopy **(6)**
f) What is the basic difference between EIMS and CIMS? Which type of solvent used in NMR spectrophotometer? **(4+2)**
g) Mention the various types of Chromatography **(6)**
h) Write short notes on Stationary phase **(6)**
i) Write down the various factors on which column efficiency depends. What is eluent? **(4+2)**
j) Write down the basic principle of Gas Chromatography. What are the basic property of carrier gas for Gas Chromatography **(3+3)**
k) Explain in detail about the Instrumentation of HPLC **(6)**
l) What are detecting agents? Give example **(6)**

Part-III

Long Answer Type Questions (Answer Any TWO out of FOUR)

Q3	Explain the basic principle of UV spectroscopy. What is the Isobestic point? Derive the following equation with the help of Beer-Lambert's Law:	**(4+3+9)**
Q4	What is the difference between TLC and HPTLC? Write down the various methods for preparation of TLC plates. Give example of some adsorbents Which are used in TLC? What is edge effect?	**(3+6+4+3)**
Q5	Write down the preparation method of the column. Only mention the advantages and disadvantages of Column chromatography.	**(6+10)**
Q6	What are the principles involved in Atomic Absorption spectroscopy? Explain in detail about the Instrumentation of Atomic Absorption spectroscopy.	**(6+10)**

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15PH704

7th Semester Regular Examinaton 2018-19
PHAMACOLOGY-III
BRANCH : B.Pharma
Time : 3 Hours
Max Marks : 100
Q.CODE : E333

Answer Question No.1 which is compulsory, any EIGHT from part-II and any TWO from part-III.
The figures in the right hand margin indicate marks.

PART-I

Q1 **Answer the following questions :** **(2 x 10)**

a) Define anorexia. Give any 2 examples of anorexiants.
b) Write the functions of parathyroid hormone.
c) What is macrolide antibiotics? Give 2 examples of it.
d) Define antibiotic resistance.
e) Give some examples of fluoroquinolone antibiotics.
f) What are the demerits of natural penicillin?
g) Write the mechanism of action of aminoglycoside antibiotics.
h) Give some examples anti-AIDS drugs.
i) What the function of glucagon hormone?
j) Define antihelmintics .Give some examples of it.

PART-II

Q2 **Focused-short Answer Type Questions-(Answer any Eight out of Twelve)** **(6 x 8)**

a) What is emesiss? Write briefly about antiemetic drugs.
b) Define diarrhea. Give a note on treatment of diarrhea.
c) Classifyantithyroid drugs and mention their uses.
d) Write down the physiological action and uses of estrogen.
e) Explain briefly aboutchloramphenicol.
f) Classify sulfonamides. Write a note on cotrimoxazole.
g) Discuss about various anterior pituitary hormones and their functions.
h) Give a short note on chloroquine used in malaria treatment.
i) Classify penicillins. Write the mechanism of beta lactam antibiotics.
j) Define immunosuppressants. Describe their classification with mechanism of action.
k) Defineconstipation. Give a short note on drugs used for constipation.
l) Discuss on synthesis and pharmacological actions of Vit-D.

PART-III

Long Answer Type Questions(Answer any Two out of Four)

Q3 Definepeptic ulcer. Classify the drug used for peptic ulcer. Write the mechanism of action and uses of proton pump inhibitors. **(16)**

Q4 Define diabetes mellitus. Classify antidiabetic drugs with examples. Describe the pharmacology of sulfonyl urea. **(16)**

Q5 Classify antitubercular drugs and write a note on isoniazid. Discuss about "ShortCourse Chemotherapy(SSC)". **(16)**

Q6 Classify anticancer drugs with examples and write a note on methotrexate. Discuss general toxicity of cytotoxic drugs. **(16)**

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Total Number of Pages : 02 **B.Pharm.**
15PH705

7th Semester Regular Examination 2018-19
RESEARCH METHODOLOGY
BRANCH : B.Pharma
Time : 3 Hours
Max Marks : 100
Q.CODE : E412

Answer all questions from part-I, any EIGHT from Part-II and any TWO from Part-III
The figures in the right hand margin indicate marks.

Part-I

Q1 **Short Answer Type Questions (Answer All-10)** **(2 x 10)**

a) Distinguish between qualitative and quantitative research.
b) State any two issues addressed in research design.
c) What is observation method of data collection?
d) What do you mean by sampling error?
e) What is a rating scale?
f) Differentiate between open ended and close ended questionnaire.
g) Distinguish between population and sample.
h) Distinguish between t-test and z-test.
i) Under what circumstances binomial distribution tends to Poisson distribution
j) What is contained in the 'Introductory Pages' of research report.

Part-II

Q2 **Focused-Short Answer Type Questions- (Answer Any EIGHT out of TWELVE)** **(6 x 8)**

a) Describe, with the help of an example, the different steps involved in a research process.
b) What is research design? Explain the essential feature of a good research design.
c) Define hypothesis. Explain different types of hypothesis. Explain the role of hypothesis.
d) Select any topic for research and explain how you will use both secondary and primary sources to gather the required information.
e) What is the meaning of measurement? What difference does it make when we measure in terms of various scales? Explain by giving example.
f) Elaborate guidelines for developing a good questionnaire. Explain by citing examples.
g) Suppose the numbers of a particular type of bacteria in samples of 1 milliliter of drinking water tend to be approximately normally distributed, with a mean of 85 and a standard deviation of 9. What is the probability that a given 1 milliliter sample will contain more than 100 bacteria?
h) The heights of college students in Bhubaneswar are normally distributed with standard deviation 6 cm. and sample of 100 students had their mean height 158 cm. Test the hypothesis that the mean height of college students in Bhubaneswar is 160cm. [Use 5% level of significance]
i) A soft-drink dispensing machine is said to be out of control if the variance of the contents exceeds 1.15 deciliters. If a random sample of 25 drinks from this machine has a variance of 2.03 deciliters, does this indicate at the 0.05 level of significance that the machine is out of control?
j) What is research report? Describe steps in research report writing.
k) What are the different categories of research reports? Give two examples of reports from each of these categories.
l) Briefly explain the ethical issues of research.

Part-III

Long Answer Type Questions (Answer Any TWO out of FOUR)

Q3 Define and explain the term research. Explain the need and importance of research in pharmacy. List the characteristics of true experimental designs and explain the various experimental designs with examples. **(16)**

Q4 What are the different types of sampling? Explain each of them. Also explain why probability sampling techniques are preferred over non probability sampling techniques. **(16)**

Q5 Use the following data to compare four treatments: **(16)**

Treatment 1 :	3	5	1	6	
Treatment 2 :	2	4	6	5	3
Treatment 3 :	1	7	5	4	6
Treatment 4 :	3	2	4		

Use the analysis of variance at the 0.05 level of significance and determine whether or not the treatment means differ significantly.

Q6 **Compare and contrast (*Any FOUR*) of the following :** **(8 x 2)**

a) Exploratory research and conclusive research.
b) Correlation and regression.
c) One Tailed and Two Tailed test.
d) Type I error and Type II error.
e) Foot notes and bibliography.

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Total Number of Pages : 01 **B.Pharm**
15PH706.E.2

7th Semester Regular Examination 2018-19
COSMETIC TECHNOLOGY
BRANCH : B.Pharma
Time : 3 Hours
Max Marks: 100
Q.CODE : E517

Answer Question No.1 (Part-1) which is compulsory, any EIGHT from Part-II and any TWO from Part-III.
The figures in the right hand margin indicate marks.

Part- I

Q1 **Short Answer Type Questions (Answer All-10)** **(2 x 10)**

a) What do you mean by humectants?
b) What do you mean by SPF value?
c) What are dentifrices?
d) What are the uses of enamel removers?
e) What are palliative preparations?
f) Why conditioners are used?
g) What are the basic raw materials used for lipstick preparations?
h) What is a bromo mixture?
i) Define CMC.
j) What is pay-off character?

Part- II

Q2 **Focused-Short Answer Type Questions- (Answer Any Eight out of Twelve)** **(6 x 8)**

a) What are the general requirements of factory premises for cosmetic manufacturing?
b) What are the different conditions of license?
c) Write a note on all-purpose creams?
d) What are the different characters that an ideal sunscreen should have?
e) What are the different hair care preparations?
f) Write note on secondary surfactants?
g) Classify shaving products.
h) Write note on nail disorders.
i) Why plasticizers are used in nail products?
j) Why astringents are used in mouthwashes?
k) What are the different types of binders used for compact face powders?
l) What is the role of lubricant and temperature while pouring lipstick mixture in mould?

Part-III

Long Answer Type Questions (Answer Any Two out of Four)

Q3 Write in details on manner of labeling. **(16)**

Q4 What are the different evaluation tests for skin products? **(16)**

Q5 What are the different ingredients of hair removers? **(16)**

Q6 Write different tests used for evaluation of shaving products. **(16)**