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

Total Number of Pages : 01 **B.Pharm**
BP401T

4th Semester Regular Examination 2018-19
PHARMACEUTICAL ORGANIC CHEMISTRY - III
BRANCH : B.Pharma
Max Marks : 75
Time : 3 Hours
Q.CODE : F124

Answer Question No.1 (Part-A) and 02 (Part-B) which are compulsory and any TWO from Part-C.
The figures in the right hand margin indicate marks.

Part- A

Q1 **Objective Answer Type Questions (Answer All)** **(2 x 10)**

a) Write down the structures of stereoisomers formed when cis-2-butene is reacted with bromine.
b) Differentiate between diastereomers and enantiomers.
c) Describe the isomerism exhibited by maleic acid and fumaric acid.
d) Explain the term chiral molecule.
e) State the necessary condition for a compound to show optical isomerism.
f) Explain the term Meso compound.
g) Write about conformational isomerism.
h) Why do not you expect geometrical isomers in case of 2-butyne.
i) Write down the structure of the following compounds:
i) Imidazole ii) Indole iii) Quinoline iv) Thiazole
j) State Clemmensen reduction.

Part- B

Q2 **Focused-Short Answer Type Questions- (Answer Any Seven)** **(5 x 7)**

a) Define the term stereoisomerism and classify it with examples.
b) Write notes on Fischer's projection.
c) Explain E and Z system of nomenclature with examples.
d) Write short notes on resolution of racemic modification.
e) Explain R and S system of nomenclature with examples.
f) Write notes on conformational isomerism of n-Butane.
g) Explain stereospecific reaction.
h) Discuss the general methods of preparations of Furan.
i) Discuss the chemical properties of Imidazole.

Part-C

Long Answer Type Questions (Answer Any Two)

Q3 Discuss the synthesis, chemical reaction and medicinal uses of Pyrrole. **(10)**

Q4 Discuss the synthesis, chemical reaction and medicinal uses of Pyrazole. **(10)**

Q5 Explain the methods of preparation and chemical reaction of Pyridine. **(10)**

Q6 **Write short notes on :** **(10)**

a) Wolff-Kishner reduction
b) Claisen Schmidt reaction

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

Total Number of Pages : 01 **B.Pharm**
BP402T

4th Semester Regular Examination 2018-19
MEDICINAL CHEMISTRY -I
BRANCH : B.Pharma
Time : 3 Hours
Max Marks : 75
Q.CODE : F244

Answer Question No.1 (Part-A) and 02 (Part-B) which are compulsory and any TWO from Part-C. The figures in the right hand margin indicate marks.

Part- A

Q1 **Objective Answer Type Questions (Answer All)** **(2 x 10)**

a) How Bio-isosters classified, give example.
b) State Henderson-Hassel Bach equation for acid & base.
c) Write the structure and IUPAC name of Bitolterol.
d) Outline the importance of Partition coefficient in drug design.
e) Write the chemistry & uses of Physostigmine.
f) Outline the synthesis of Carbachol.
g) Write the structure and IUPAC name of Morphine.
h) How you differentiate sympathetic and Parasympathetic neurotransmitter.
i) Write MOA of Tolazoline.
j) Write Mechanism of action of Opioids.

Part- B

Q2 **Focused-Short Answer Type Questions- (Answer Any Seven)** **(5 x 7)**

a) Explain Phase-I Principle for Drug metabolism.
b) Explain the bio-synthetic pathways of Catecholamine.
c) Write down the synthesis MOA and uses of Salbutamol.
d) Explain SAR of Aryl-Ethanol-amines as β– blocker.
e) Write the synthesis, MOA and uses of Neostigmine.
f) Distinguish between Cholinergic agonists and antagonist with example, write detail on Ipratropium bromide.
g) Explain MOA of Anti-convulsant with reference to the drug Phenytoin.
h) Explain the chemistry and outline the synthesis of Diazepam.
i) Classify NSAID with example. Give synthetic route and uses of Mefenamic acid.

Part-C

Long Answer Type Questions (Answer Any Two)

Q3 Classify antipsychotics with suitable examples. Describe SAR of Butyrophenones, taking the example of Haloperidol. **(10)**

Q4 Define Hypnotic and sedative. Classify it with examples. Discuss SAR of Barbiturates. **(10)**

Q5 Classify Parasympatholytics drugs with examples. Discuss SAR of Cholinolytic agent. Write structure and uses of Atropine Sulphate. **(10)**

Q6 Classify General anaesthetics with examples**.** Describe synthetic route, MOA and uses of Methohexital sodium and Ketamine Hydrochloride **(10)**

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

Total Number of Pages : 01 **B.Pharm**
BP403T

4th Semester Regular Examination 2018-19
PHYSICAL PHARMACEUTICS-II
BRANCH : B.Pharma
Time : 3 Hours
Max Marks : 75
Q.CODE : F381

Answer Question No.1 (Part-A) and 02 (Part-B) which are compulsory and any TWO from Part-C. The figures in the right hand margin indicate marks.

Part- A

Q1 **Objective Answer Type Questions (Answer All)** **(2 x 10)**

a) State mobility and kinematic viscosity.
b) Define light powders and heavy powders with example.
c) Differentiate between under size and over size frequency distributionin powders.
d) Zero order reactionsare dependent upon the concentration of reactant. Comment.
e) What is plug flow? How can it be minimized?
f) State porosity. Derive the expression to determine it.
g) Write the relationship among true solution, coarse suspension and colloids.
h) Write Gold number with its Significance.
i) State electro-kinetic and electro-dynamic in colloids.
j) How does suspension differ from emulsion?

Part- B

Q2 **Focused-Short Answer Type Questions- (Answer Any Seven)** **(5 x 7)**

a) Describe briefly the applications of micromeretics in pharmacy.
b) State Specific surface. Write down any two methods for its determination.
c) Differentiate between Newtonian flow and non-Newtonian flow.
d) Write down any two methods to purify colloids.
e) Explain rheological properties of suspension.
f) State half-life and shelf life of drug,and derive these for a drug following 1st order degradation kinetics.
g) Explain Donnan membrane effect with suitable example.
h) Describe different graphic presentations of size distribution data in powders.
i) Explain brieflydifferent types of teststo identify the types ofemulsion.

Part-C

Long Answer Type Questions (Answer Any Two)

Q3 Define Non-Newtonian flow of liquid. Describe the principle, construction of cup-bob over the advantage point in cone-plate method. **(10)**

Q4 Discuss accelerated stability study for determining the shelf life of drug. Write down its applications and limitations. **(10)**

Q5 State colloid. Classify different type of colloid with suitable examples. **(10)**

Q6 Write the principle, construction and working of Coulter-Counter apparatus for the determination of particle size of powders. **(10)**

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

Total Number of Pages : 01 **B.Pharm**
BP404T

4th Semester Regular Examination 2018-19
PHARMACOLOGY-I
BRANCH : B.Pharma
Time : 3 Hours
Max Marks : 75
Q.CODE : F520

Answer Question No.1 (Part-A) and 02 (Part-B) which are compulsory and any TWO from Part-C.
The figures in the right hand margin indicate marks.

Part- A

Q1 **Objective Answer Type Questions (Answer All)** **(2 x 10)**

a) Define therapeutic index. How it will be calculated?
b) What is competitive antagonism? Write one example.
c) Define synergism with examples.
d) What is Co-transmission?
e) Benzodiazepines are preferred over barbiturates –comment.
f) Differentiate Tolerance & Dependence.
g) What is vesicular reuptake during neurohumoral transmission of noradrenaline? Write one example of is vesicular reuptake inhibitor.
h) State the mechanism of local anaesthetics with one example.
i) Name any two opoid antagonist with their ueses.
j) What are anorectics? Write their uses.

Part- B

Q2 **Focused-Short Answer Type Questions- (Answer Any Seven)** **(5 x 7)**

a) Explain different Phase-II metabolic reaction with suitable examples.
b) Briefly describe about the different types of drug interactions with examples.
c) Briefly enumerate about the different phases of clinical trial.
d) Give a brief account on the treatment of parkinsonism disease.
e) Classify and write about the common pharmacological actions of alpha adrenergic blockers.
f) Write the mechanism, adverse effect and uses of phenytoin.
g) Write a note on centrally acting muscle relaxants,
h) Describe any five factors modifying the action of drugs.
i) Explain about the different types of adverse drug reactions with suitable examples.

Part-C

Long Answer Type Questions (Answer Any Two)

Q3 Classify β adrenergic blockers. Describe the pharmacology of propranolol. **(10)**

Q4 Define analgesics. Classify opoid analgesics with examples and write about the pharmacological action of morphine. **(10)**

Q5 Classify anticholinergic drugs with examples. Explain about the pharmacological action atropine. **(10)**

Q6 Classify sedatives and hypnotics. Write M.O.A., adverse effect and uses of benzodiazepines. **(10)**

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

Total Number of Pages : 01 **B.Pharm**
BP405T

4th Semester Regular Examination 2018-19
PHARMACOGNOSY I
BRANCH : B.Pharma
Max Marks : 75
Time : 3 Hours
Q.CODE : F668

Answer Question No.1 (Part-A) and 02 (Part-B) which are compulsory and any TWO from Part-C.
The figures in the right hand margin indicate marks.

Part- A

Q1 **Objective Answer Type Questions (Answer All)** **(2 x 10)**

a) Write the biological source and uses of Agar.
b) Define Ayurveda.
c) Write about organoleptic evaluation of crude drugs.
d) What is soil fertility?
e) State the definition of hybridization.
f) Write the general properties of volatile oil.
g) Write the biological source and therapeutic uses of Papain.
h) Define optical rotation.
i) Write the biological source and uses of Bees wax.
j) State the biological source and chemical constituents of Hemp.

Part- B

Q2 **Focused-Short Answer Type Questions- (Answer Any Seven)** **(5 x 7)**

a) Write a note on Soil.
b) Differentiate organized and unorganized drugs with examples.
c) What is mutation? Write the different types of mutation.
d) Write the applications of Auxin and Cytokinin.
e) Illustrate the applications of plant tissue culture.
f) Explain in details about natural allergens with examples.
g) Illustrate the pharmacognostical profile of Honey.
h) Distinguish between primary and secondary metabolites.
i) Explain the biological source, chemical nature and uses of Cotton.

Part-C

Long Answer Type Questions (Answer Any Two)

Q3 Describe the different conditions involved in adulteration and different types of adulterants. **(10)**

Q4 Discuss in detail about the culture media used in plant tissue culture. **(10)**

Q5 Classify crude drugs with suitable examples in details. **(10)**

Q6 Describe the different methods of pest control management. **(10)**

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

Total Number of Pages : 01 **B.Pharm**
15PH401

4th Semester Back Examination 2018-19
PHYSICAL PHARMACEUTICS-II
BRANCH : B.Pharma
Time : 3 Hours
Max Marks : 100
Q.CODE : F866

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

a) State fluidity and mobility according to rheology.
b) Write the equation and parameters of Ostwald viscometer.
c) State surfactant. How HLB value depends on solubility of drug ?
d) State Micromeritics.Write two applications in pharmacy.
e) How angle of Repose depends on flow properties?
f) Write relation among porosity, bulk density and tap density.
g) How plug flow can be minimized?
h) What is gold number? Write any two significance.
i) How Bancroft's rule is depends on preparation of emulsion?
j) State both Zeta-potential and Nernst potential in suspension.

Part- II

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

a) Explain different types of diameter according to Micromeritics.
b) State BET equation. Write different types of isotherms.
c) How calibration will be done in case of Microscopic method?
d) Explain the bulges and spurs of rheograms.
e) Illustrate different powder distribution curves.
f) Differentiate lyophilic and lyophobic colloids
g) Analyze and explain the good properties of suspension.
h) Write application of colloids in pharmacy.
i) Explain the rheological properties of emulsion.
j) Explain the concept of Donnan membrane equilibrium with suitable examples and equation.
k) Illustrate about factors influencing the viscosity.
l) State and derive specific surface of powder. Give one example.

Part-III

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

Q3 With relevant mathematical equation, give the construction, working and disadvantages of Cup and Bob viscometer. Justify how it will overcome in cone-plate method **(16)**

Q4 State the principle and discuss method involved in the determination of particle size in a powder using Coulter-Counter apparatus. Examine the advantage and disadvantage of above method. **(16)**

Q5 Discuss the factors which improve the physical stability of emulsions. Describe the mechanisms of action of co-solvents and surfactants in dispersion of solids in water **(16)**

Q6 Explain Non-Newtonian type of flow with rheograms, mechanisms and suitable examples. **(16)**

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

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

15PH402

4th Semester Back Examination 2018-19

PHARM. ENGINEERING-II

BRANCH : B.Pharma

Max Marks : 100

Time : 3 Hours

Q.CODE : F926

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

a) Write the Reynolds number formula.

b) What is adiabatic saturation temperature?

c) Write four valves name used for flow of liquids.

d) What is the function of pump?

e) State the function of compressor.

f) Write basic components of belt conveyer.

g) Write the steps of crystal formation from solution.

h) Write advantages of steel as material of construction.

i) State various industrial hazards.

j) Define centrifugation and name one centrifuge.

Part- II

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

a) Illustrate an equation for pressure difference for simple manometer.

b) Write applications of humidity in Pharmaceutical filed.

c) Describe methods of measurement of humidity.

d) Write construction and working of Diaphragm pump.

e) Write a note on globe valve.

f) Explain Mier's Super saturation theory.

g) What is caking of crystal and how it can be prevented?

h) Explain glass as a material of construction.

i) Write a note on industrial dermatitis.

j) Write sources and prevention of electrical hazards.

k) How corrosion can be prevented and controlled?

l) Write the principle of centrifugation.

Part-III

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

Q3	Write the principle, construction, working, applications, advantages and disadvantages of Screw conveyors.	**(16)**
Q4	Describe the principle, construction, working, applications, advantages and disadvantages of Swenson Walker crystallizer.	**(16)**
Q5	Write principle, construction, working, applications, advantages and disadvantages of perforated Basket centrifuge.	**(16)**
Q6	Write principle, construction, working, applications, advantages and disadvantages of Venturi meter.	**(16)**

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

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

15PH403

4th Semester Back Examination 2018-19

BIOCHEMISTRY

BRANCH : B.Pharma

Time : 3 Hours

Max Marks : 100

Q.CODE : F945

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

a) What is high energy rich compound? Give two examples.
b) Define Km. Write its significance.
c) Name the regulatory enzymes of Glycolysis.
d) Write the components of ETC and indicate the sites of phosphorylation.
e) What is Rapaport-Leubering cycle?
f) Mention the significance of α-oxidation of fatty acid.
g) Distinguish between Endocytosis and Exocytosis.
h) What is fermentation? Write down the reaction of fermentation.
i) What is translation?
j) Give the structures of any two Purine nucleotides.

Part- II

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

a) Write down the various mechanism of Transport process.
b) Describe the processes of glycogenolysis.
c) What is Ketosis? Describe Ketogenesis.
d) Explain how ATP is synthesized in the body. Mention the significance of ATP.
e) Define Enzyme inhibition. Write down about reversible inhibition.
f) What is eicosanoids? Write down the biological role of ProstaglndIns.
g) Describe β- oxidation with energetic.
h) What is HMP Shunt? Describe the oxidative phase and importance of HMP Shunt.
i) Define Coenzyme. Write down the function of PLP.
j) Write down about transcription.
k) Write down various application of enzyme in clinical diagnosis
l) Describe Urea cycle.

Part-III

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

Q3 Define enzyme. Classify with suitable examples. Write down the various factors altering the enzyme activity. **(16)**

Q4 What is Kreb's cycle? Describe detail the reactions with energetic. Mention the amphibolic nature of this cycle. **(16)**

Q5 Describe how Palmitic acids synthesize in the body. **(16)**

Q6 Define Xenobiotics? Discuss the various mechanism of detoxification. **(16)**

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

Total Number of Pages : 01 **B.Pharm**
15PH404

4th Semester Back Examination 2018-19
COMPUTER APPLICATION
BRANCH : B.Pharma
Time : 3 Hours
Max Marks : 100
Q.CODE : F1003

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

a) Who is the father of computer?
b) What do you mean by RAM and ROM?
c) Differentiate between processor and memory in computer architecture.
d) What is ALGORITHM?
e) What are the number systems in computer?
f) What do you mean by URL?
g) Give name of two important websites related to pharmaceutical information.
h) What is website?
i) What is 2D Array?
j) Write a note on CPU?

Part- II

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

a) Differentiate between algorithm and flow chart in Java.
b) How you will preparing a presentation by using power point.
c) Write a program to find out odd and even number between 1 to 100 in java.
d) Differentiate between “while” and “do….while” loop?
e) Explain different types of transmission modes.
f) Write note of operators in Java.
g) What is an E-mail? Describe the process of check and compose of an E-mail.
h) Write notes on generation of computer.
i) Write note on super computers of India.
j) Differentiate between machine language and ALP with examples.
k) Describe the function of TCP/IP.
l) Explain the application of computer in Pharmacy.

Part-III

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

Q3 What is Java? Describe different features of Java? **(16)**

Q4 What is networking? Describe different type of networking and Topology. **(16)**

Q5 What is computer? What are its components? Highlights your idea with examples. **(16)**

Q6 What is Error Handling? Explain Exception Handling in Java with example. **(16)**

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

Total Number of Pages : 02 **B.Pharm**
15PH405

4th Semester Back Examination 2018-19
ORGANIC CHEMISTRY- III
BRANCH : B.Pharma
Time : 3 Hours
Max Marks : 100
Q.CODE : F667

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

a) Write any two medicinal uses of pyrazole.
b) Write the structure and naming the compound of phenothiazine.
c) Give any two application of Benzoin condensation reaction.
d) What is zwitter ion.
e) Give the name and structure of any two sulphur containing amino acids.
f) What is polypeptide bond, give suitable example.
g) What do you mean by reducing and non reducing sugars, Give suitable example from each.
h) What is saponification value give its significance.
i) What is Reichert-Meissl value.
j) What is meant by pericyclic reaction.Give example.

Part- II

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

a) Give synthesis and reaction of pyrimidine.
b) What are lipids classify them with suitable structures and write their chemical properties.
c) Write a short notes on nucleic acids and their components.
d) Give the reaction, mechanism and application of Reformatsky reaction.
e) Give the reaction, mechanism and application of Michael addition reaction.
f) What are cope rearrangements and claisen rearrangements.
g) Write in detail about pericyclic rearrangement.
h) Classify proteins write about purification of proteins.
i) Write short notes on structure of DNA.
j) Write the synthesis ,reaction and medicinal uses of benzimidazole.
k) Write the synthesis, reaction and medicinal uses of oxazole.
l) Write the chemistry of starch.

Part-III

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

Q3	Write in detail about Woodward-Hoffmann rule for electrocyclic reactions and Diel's Alder reaction.	**(16)**
Q4	Give reaction and mechanism of Knoevenagel condensation and Perkin reaction.	**(16)**
Q5	Write the synthesis of alpha amino acids and their physical properties and some characteristic chemical reactions.	**(16)**
Q6	Define and classify carbohydrates and write the chemistry of glucose and fructose.	**(16)**

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

Total Number of Pages : 02 **B.Pharm**
15PH406

4th Semester Back Examination 2018-19
MATHEMATICS & STATISTICS
BRANCH : B. Pharma
Max Marks : 100
Time : 3 Hours
Q.CODE : F733

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

a) Evaluate: $\int \sqrt{(1-\sin 2x)}dx$

b) Compute: $\int xe^x dx$

c) Solve $x\frac{dy}{dx} = \sqrt{1-y^2}$

d) Test the equation $e^y dx + (xe^y + 2y)dy = 0$ for exactness & solve it if it is exact.

e) Find the Laplace Transform of 1

f) Evaluate: $L(\sqrt{t})$

g) What is partition values?

h) Define positive & negative correlation?

i) Obtain the binomial distribution for which mean is 20 & variance is 15

j) What is binomial distribution?

Part- II

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

a) Evaluate: $\int \frac{dx}{(x+1)(x+2)(x+3)}$

b) Evaluate: $\int \frac{\sin^3 x + \cos^3 x}{\sin^2 x.\cos^2 x}dx$

c) Solve: $x^2 ydx - (x^3 + y^3)dy = 0$

d) Solve: $\frac{dy}{dx} + \frac{1}{x}y = \frac{\sin x}{x}, y(0) = 0$

e) Find the Inverse Transform of $\frac{7}{p^2 + 10p + 20}$

f) If $\overline{f}(p)$ is a transform of $f(t)$ and if $f(t)$ has the value $f(0)$ when $t = o$, then $L\{f'(t)\} = p\overline{f}(p) - f(0)$

g) Calculate the standard deviation for the following data :

Class	5-10	10-15	15-20	20-25	25-30
Frequency	4	6	9	3	2

h) Calculate coefficient of correlation from the following data :

X	12	9	8	10	11	13	7
Y	14	8	6	9	11	12	3

i) Fit a parabola of second degree to the following data :

X	0	1	2	3	4
Y	1	1.8	1.3	2.5	6.3

j) Show that the mean of the binomial distribution is np.

k) What is normal distribution? Highlight its important properties.

l) Compute the variance of Poisson distribution.

Part-III

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

Q3 What is non-homogeneous linear equation with constant coefficients and **(16)**

Solve $x^2 \frac{d^2y}{dx^2} - x\frac{dy}{dx} - 3y = x^2 \log x$

Q4 Describe Laplace Transformation and Solve the equation **(16)**

$y'' + 2y' + 2y = 2$, given that

$y(0) = 0, y'(0) = 1$

Q5 Find the coefficient of variation of the following data : **(16)**

Wages	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80
No. of workers	12	18	35	42	50	45	20	8

Q6 Compute the mean of Poisson distribution and Fit a Poisson distribution to the following data & calculate the theoretical frequencies. **(16)**

x	0	1	2	3
F	123	59	14	3

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

Total Number of Pages : 01 **B.Pharm**
PH.4.10

4th Semester Back Examination 2018-19
PHARMA CHEMISTRY - IV
BRANCH : B.Pharma
Time : 3 Hours
Max Marks : 70
Q.CODE : F734

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

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

a) Differentiate between Pentose and Pentasaccharide.
b) Define Saponification number.
c) Name the bases found in RNA .
d) Define Rancidity of fats.
e) Draw the structure of Thiophen and indole.
f) What are essential amino acids.
g) Give the structure and numbering of quinoline and isoquinoline.
h) What are the differences between fats and oils?
i) Define Diels-alder reaction with example.
j) What are polypeptides. Give example.

Q2 **a)** Write two methods of preparation and three chemical properties of Furan. **(5)**
b) Draw the structure of anthracene with numbering. Write its method of preparation and chemical properties. **(5)**

Q3 **a)** Define and classify amino acids. Write the important methods of preparation. **(5)**
b) Explain the purification of Proteins. **(5)**

Q4 **a)** Define and classify lipids. Describes the important chemical properties of lipids. **(5)**
b) Write about ascending and descending sugars. **(5)**

Q5 **a)** Write notes on important disaccharides. **(5)**
b) Explain Oppenaur oxidation. **(5)**

Q6 Explain the double helical structure of DNA. **(10)**

Q7 Define and classify carbohydrates with suitable examples, Explain any five important chemical properties of glucose **(10)**

Q8 **Write short answer on any TWO :** **(5 x 2)**

a) Mutarotation
b) Beckmann rearrangement
c) Reducing and non-reducing sugars.

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

Total Number of Pages : 01 **B.Pharm**
PH.4.3

4th Semester Back Examination 2018-19
BASIC ENGINEERING -II (UNIT OPERATIONS - II)
BRANCH : B.Pharma
Time : 3 Hours
Max Marks : 70
Q.CODE: F243

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

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

a) Write types of fluid flow.
b) Define dew point and write its application.
c) What are manometers and write its types.
d) What are blowers?
e) What are objectives of conveying?
f) Define relative humidity and write its significance.
g) What are applications of centrifugation in Pharmacy field?
h) Define the term Nucleation.
i) Write advantages of glass as material of construction.
j) Name sources of electrical hazards in Industry.

Q2 **a)** Write principle and working of Orifice meter. **(5)**
b) Write a note on Reynolds number with its applications. **(5)**

Q3 **a)** Write the applications of humidity measurements in Pharmacy **(5)**
b) Define dehumidification with its applications. What are approaches of dehumidification? **(5)**

Q4 **a)** Write theory of centrifugation. **(5)**
b) Write principle, construction and applications of perforated basket centrifuge. **(5)**

Q5 **a)** Define corrosion and How corrosion can be prevented and controlled? **(5)**
b) Describe steel as materials of construction. **(5)**

Q6 Write the principle, construction, working and applications of belt conveyors. **(10)**

Q7 Describe the principle, construction, working and applications of Agitated batch crystallizer. **(10)**

Q8 **Write short answer on any TWO :** **(5 x 2)**

a) Diaphragm valve.
b) Gear pump.
c) Chemical hazards.

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

Total Number of Pages : 02 **B.Pharm**
PH.4.9

4th Semester Back Examination 2018-19
MATHEMATICS AND STATISTICS
BRANCH : B.Pharma
Time : 3 Hours
Max Marks : 70
Q.CODE : F666

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

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

a) Evaluate: $\int 3x^3 dx$

b) Find the value of $\int_1^2 x dx$

c) Solve $\frac{dy}{1+y^2} = \frac{dx}{1+x^2}$

d) Compute: $y''' - y' = 0$

e) Define Laplace Transform

f) What is the value of $L(t^n)$?

g) Find the median of the following values:
1 5 4 3 2

h) Calculate the standard deviation of the following values
1 3 5 7 8

i) If mean of a Poisson distribution is 4, find the standard deviation.

j) What is Chi-square distribution?

Q2 **a)** Evaluate: $\int \frac{1}{\sqrt{x^2+2x-2}} dx$ **(5)**

b) Show that **(5)**

(i) $\int_a^b f(x)dx = -\int_b^a f(x)dx$

(ii) $\int_a^b f(x)dx = \int_a^c f(x)dx + \int_c^b f(x)dx$

Where c is a point inside or outside the interval $[a,b]$

Q3 **a)** Solve : $x^2 y dx - (x^3 + y^3)dy = 0$ **(5)**

b) Solve: $(\cos x + y \sin y)dx = \cos x dy, y(\pi) = 0$ **(5)**

Q4 **a)** Find the Inverse Transform of $\frac{1}{p(p+1)^2}$ **(5)**

b) Find the Laplace Transform of 5sin2t-3cos2t **(5)**

Q5 **a)** Find the mode of the following **(5)**

Class	0-5	5-10	10-15	15-20	20-25
Frequency	3	5	7	2	1

b) Fit a straight line to the following data **(5)**

X	1	2	3	4	6	8
Y	2.4	3	3.6	4	5	6

Q6 Compute the mean & median of the following data **(10)**

Marks	10-25	25-40	40-55	55-70	70-85	85-100
Frequency	6	20	44	26	3	1

Q7 Compute the mean & variance of Poisson distribution. **(10)**

Q8 **Write short answer on any TWO :** **(5 x 2)**

a) Evaluate: $\int \frac{x \sin^{-1} x}{\sqrt{(1-x^2)}} dx$

b) If $f(t) = \sum_{i=1}^{n} c_i f_i(t)$, where c_i are constants then prove that $L\{f(t)\} = \sum_{i=1}^{n} c_i L\{f_i(t)\}$

c) Define skew ness & kurtosis?