Registration no: | | | | | | | | | | |

Total Number of Pages: 2 **B.PHARM**

15PH301

3rd Semester Regular Examination 2016-17

PHYSICAL PHARMACEUTICS-I

(According to New Syllabus)

BRANCH: Pharmacy

Time: 3 Hours

Max Marks: 100

Q.CODE: Y473

Answer Question No.1 & No. 2 which are compulsory and any FOUR from the rest.
The figures in the right hand margin indicate marks.

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

a) The fourth state of matter is known as ----------.

b) Sodium chloride is the example of ---------- crystal form.

c) In phase diagram the triple point maintains----------pressure and ---------- temperature.

d) The propellants used in aerosol are----------.

i) Fluorinated hydrocarbons ii) Carbon monoxide and hydrogen gas iii) Ethylene and alcohol solution. iv) None of the above.

e) Which of the following is a eutectic mixture----------.

i)37% Aspirin and 63% acetaminophen ii)45 % griseofulvin and 55 % succinic acid iii) 63% Aspirin and 37% acetaminophen iv) None of these.

f) Relation between C_P and C_V

i) $C_P > C_V$ ii) $C_P < C_V$ iii) $C_P = C_V$ iv) None of these.

g) The critical temperature of water is ----------.

h) ---------- is the unit of zero order rates constant.

i) ----------is the CST for Phenol-Water system to yield a one phase liquid system.

j) ---------- is used in Lead poising and other poising.

Q2 **Answer the following questions:** **(2 X 10)**

a) Define polymorphisms with suitable examples.

b) Differentiate between crystalline solid and amorphous solid with suitable example

c) Define entropy with equation.

d) What is HLB value? How HLB value related to non-polar group of drug?

e) Write Henderson-Hasselbalch equation and two applications of buffer in pharmacy.

f) What is buffer capacity? Write the equation for buffer capacity.

g) Write shelf life of drug following 1^{st} order reaction.

h) Write Zeta potential and Nernst potential of solutions.

i) What is chelate type complexation? Give examples.

j) Which type of complexation is EDTA? Write Importance of EDTA.

Q3 **Write short notes on any two** **(7.5 X 2)**

a) Glassy state **b)**Eutectic mixture **c)** Aerosol

Q4 **a)** What is Carnot's cycle? How isit operated in heat engine? **(10)**

b) Derive $\eta = 1 - (T_2/T_1)$. Where η=efficiency, T_2=source of heat, T_1 =sink heat. **(5)**

Q5 **a)** What is Raoult's law? How Raoult's related is applicable in lowering of vapour pressure and osmotic pressure? **(10)**

b) How isa solution Ideal or real according to Raoult's law? **(5)**

Q6 **a)** What is isotonic solution? Explain the methods for measurement of tonicity. **(10)**

b) Briefly describe tonicity adjustment for hypotonic solutions. **(5)**

Q7 **a)** What is shelf life of drug? How can it be determined through accelerated stability study? **(10)**

b) Write BET equation with its significance. **(5)**

Q8 **a)** What is CST? How can we represent phenol-water system in bimodal curve? **(10)**

b) Write short notes on HLB scale. **(5)**

Q9 **a)** Define phase, component and degree of freedom. Derive **F=C – P+2.** **(10)**

b) Classify differ types of complexes. **(5)**

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Total Number of Pages: 02 **B.PHARM**
PH.3.1

3rd Semester Back Examination 2016-17
PHARMACEUTICS-II
(Physical Pharmacy-I)
(According to Old Syllabus)
BRANCH: Pharmacy
Time: 3 Hours
Max Marks: 70
Q.CODE: Y472

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) What is crystalline substance, how it differ from amorphous

b) Define surface tension and interfacial tension.

c) Write the principles of aerosol.

d) What is Zeta potential and Nernst potential?

e) Define Zeroth law.

f) State enthalpy of a system.

g) Define glassy state.

h) What is CMC? Describe its importance.

i) Define phase rule.

j) Write about buffer and the pharmaceutical application.

Q2 What is an isotonic solution, how it is measured? Mention the methods of adjustment of tonicity. **(10)**

Q3 Write notes on:

a) What is polymorphism? Write the pharmaceutical importance. **(5)**

b) Eutectic mixture **(5)**

Q4 Define surface tension? Describe any one method for determination of surface tension of liquid. **(10)**

Q5 State BET equation. Explain its application in Pharmacy. **(10)**

Q6 Write notes on:

a) Spreading coefficient **(5)**

b) HLB **(5)**

Q7 Write the principle involves in 1st law of thermodynamics, define isothermal expansion of gas at variable pressure. **(10)**

Q8 Write notes on: **(5 x 2)**

a) Entropy

b) Partition coefficient

Registration no: | | | | | | | | | | |

Total Number of Pages: 2 **B.PHARM**

15PH302

3rd Semester Regular Examination 2016-17
PHARMACEUTICAL ENGINEERING - I
BRANCH: Pharmacy
Time: 3 Hours
Max Marks: 100
Q.CODE: Y572

Answer Part-A which is compulsory and any four from Part-B.
The figures in the right hand margin indicate marks.

PART-A (Answer the followings)

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

a) Which one of the following has high thermal conductivity?

i) Copper ii) Glass iii) Stainless steel iv) Water

b) Which equipment is used for sieve analysis?

i) Cyclone separator ii) Air separator iii) Rotex screen iv) Shaking screen

c) Silverson mixer is used for the preparation of ----------.

i) Elixir ii) Emulsion iii) Mouth wash iv) Syrup

d) Convective mixing is also termed as ----------.

i) Diffusive mixing ii) Micro mixing iii) Macro mixing iv) Shear mixing

e) Which one of the following dryer is known as lyophilizer?

i) Freeze dryer ii) Vacuum dryer iii) Spray dryer iv) Tray dryer

f) In drying process, the final product is in the form of

i) Slurry ii) Solid iii) Liquid concentrate iv) None of these

g) Which one of the following is NOT a mechanism of filtration?

i) Entanglement ii) Impingement iii) Impact iv) Straining

h) Which substance is added for the separation of butadiene from its mixture containing butane and butene?

i) Benzene ii) Ethanol iii) Furfural iv) Glycerine

i) In evaporation process, the final product is in the form of----------.

i) Slurry ii) Solid iii) Liquid concentrate iv) None of these

j) Which one of the following is NOT used as a filter aid?

i) Bentonite ii) Gelatin iii) Charcoal iv) Asbestos

Q2 **Answer the following questions:** **(2 X 10)**

a) Define the terms 'Black body' and 'Grey body'.

b) State and explain Stefen-Boltzmann's law of heat radiation.

c) Define 'critical moisture content' and 'equilibrium moisture content'.

d) Write down the advantages of size reduction.

e) Describe Raoult's law. What is its significance?

f) What are filter media and filter aids? Give examples.

g) How vortex formation can be prevented?

h) Write down the factors influencing filtration.

i) What are the mechanisms of solid-solid mixing?

j) How steam distillation processes differ from simple distillation?

PART-B (Answer any FOUR questions)

Q3 **a)** Describe the principle, construction, working, advantages and disadvantages of a multi-pass heater. **(10)**

b) What is Fourier's law? Derive the expression for resistance offered by a metal wall during heat transmission. **(5)**

Q4 **a)** Explain the principle, construction, working and use of fluidized bed dryer. **(10)**

b) Briefly describe the drying rate curve. Explain its applications. **(5)**

Q5 **a)** Describe the construction, working, advantages and disadvantages of fluid energy mill. **(10)**

b) Explain the working of cyclone separator and its usefulness. **(5)**

Q6 **a)** Describe the construction, working, advantages and disadvantages of a Silverson mixer-emulsifier with the help of a neat diagram. **(10)**

b) Write down the principle, construction and working of planetary mixer. **(5)**

Q7 **a)** Write down the principle and application of simple distillation. Describe the large scale equipment for simple distillation. **(10)**

b) Describe the principle and application of steam distillation. **(5)**

Q8 **a)** Explain the principle, construction, working and use of a rotary continuous filter. **(10)**

b) For the filtration of a 3.5 % W/V calcium carbonate suspension, the volume of filtrate collected in 20 minutes is 285 ml. Calculate the rate of filtration in m^3/s. **(5)**

Q9 **a)** Elaborate the construction, working and use of falling film evaporator. **(10)**

b) Describe the factors influencing evaporation. **(5)**

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Total Number of Pages: 2 **B.PHARM**
PH.3.3

3rd Semester Back Examination 2016-17

BASIC ENGINEERING – I (Unit Operations – I)

(According to Old Syllabus)

BRANCH: Pharmacy

Time: 3 Hours
Max Marks: 70
Q.CODE: 571

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) State the relationship between rate of heat transfer and overall heat transfer coefficient.

b) What is Rittinger's theory for size reduction?

c) Define macro mixing and micro mixing.

d) What are the applications of drying?

e) Write the principle involved in Fractional Distillation.

f) What are the disadvantages of size reduction process?

g) Differentiate between evaporation and distillation.

h) Write the principle involved in planetary mixer.

i) What are the various methods for the prevention of vortex formation?

j) Differentiate between surface filtration and depth filtration.

Q2 Define heat exchangers. Describe the construction, operation, advantages and disadvantages of a Floating head two pass heater with a neat and labeled diagram. **(2 + 8)**

Q3		**Write short notes on:**	
	a)	Rate of drying curve	**(5)**
	b)	Freeze Dryer	**(5)**
Q4		Discuss the equipments used for mixing of liquid- liquid, immiscible liquids and Semi solids (In each category at least one equipment).	**(10)**
Q5		**Write short notes on:**	
	a)	Bag Filter	**(5)**
	b)	Rotex Screen	**(5)**
Q6		Define size reduction. Mention its objectives. Describe the construction, working, advantages and disadvantages of fluid energy mill with a neat and labeled diagram	**(1+2+7)**
Q7		**Write short notes on:**	
	a)	Factors influencing filtration	**(5)**
	b)	Preparation of Water for Injection	**(5)**
Q8		Explain in detail about Multiple effect evaporator with a neat and labeled diagram.	**(10)**

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Total Number of Pages: 3 **B.PHARM**

15PH303

3rd Semester Regular Examination 2016-17

ORGANIC CHEMISTRY- II

(According to New Syllabus)

BRANCH: Pharmacy

Question Code: Y628

Time: 3 Hours

Max Marks: 100

Answer Part-A which is compulsory and any four from the Part-B.

The figures in the right hand margin indicate marks.

Part-A

Q.1 Choose the correct answer: **(2 x 10)**

a) Vinyl alcohol and acetaldehyde are:

A) Geometrical isomers B) Keto-enol tautomers C) Chain isomers D) Positional isomers

b) The compound which is not isomeric with diethyl ether is

A) Methyl n-propyl ether B) 1-Butanol C) 2-Methyl propan-2-ol D) Butanone

c) 1-Butene and cyclobutane exhibit which type of isomerism:

A) Ring-chain B) Position C) Tautomerism D) Functional

d) Stereoisomers have different:

A) Molecular formula B) Structural formula C) Configuration D) Molecular mass

e) Select the pair of compounds which exhibit *cis-trans* (geometrical) isomerism:

A) Fumaric acid and maleic acid B) Malonic acid and succinic acid

C) Lactic acid and tartaric acid D) Acetic acid and crotonic acid

f) Isomers which can be interconverted through rotation around a single bond are:

A) Position isomers B) Enantiomers C) Metamers D) Conformers

g) Meso tartaric acid and d-tartaric acid are:

A) Position isomers B) Racemic mixture C) Enantiomers D) Diastereomers

h) d- and l-forms of an optically active compound differ in:

A) Boiling points B) Melting points C) Specific rotation D) Specific gravity

i) The most stable conformation of ethane is:

A) Boat form B) Chair form C) Eclipsed form D) Staggered form

j) Which statement is wrong about enantiomorphs?

A) They rotate the plane of polarized light to different directions

B) Normally, they possess same physical properties

C) The shapes of their crystals are same

D) Their biological properties are different

Q.2 **Fill in the blanks** **(2x10)**

a) Benzene on catalytic hydrogenation forms_____as the final product.

b) On nitration of nitrobenzene, the second nitro group will enter in _____ position.

c) Benzene reacts with_____ in presence of aluminium chloride to form acetophenone.

d) Formation of phenol from chlorobenzene is an example of _____ aromatic substitution reaction.

e) Phenol is acidic because of _____ of its conjugate base phenoxide ion.

Answer the followings

f) What is Huckel's rule?

g) Give the structure and numbering of imidazole and isoquinoline.

h) Give the structure and uses of diazomethane.

i) What is Walden inversion?

j) What is asymmetric carbon?

Part-B (Answer any FOUR questions)

Q.3 **a)** Define and classify isomerism with suitable examples. **(5)**

b) Discuss briefly the physical and chemical properties of geometrical isomerism. **(5)**

c) Discuss the conformations of butane. **(5)**

Q.4 **a)** What is optical activity? Discuss briefly enantiomerism and diastereoisomerism with examples from each category. **(10)**

b) Discuss briefly specification of configuration of optical isomers. **(5)**

Q.5. **a)** Give the general methods of preparation benzene. **(5)**

b) Discuss briefly the chemical properties of benzene with examples and describe the mechanism of electrophilic substitution reactions of benzene with suitable examples. **(10)**

Q.6 **a)** Discuss structure and the general methods of preparation of phenol. **(5)**

b) Describe the physical and Chemical properties of phenols with suitable examples. **(10)**

Q.7. **a)** Discuss structure and the general methods of preparation of anthracene. **(5)**

b) Discuss the chemical properties of anthracene with reference to the electrophilic substitution of aromatic compounds **(10)**

Q.8 **a)** Discuss the general methods of preparation of pyrrole. **(5)**

b) Discuss the chemical properties with mechanism of reactions of pyrrole with examples **(10)**

Q.9 Discus the preparation and synthetic applications of the following organic reagents: **(5X3)**

a) Aluminium tert-butoxide

b) Lithium Aluminium Hydride

c) N-Bromo succinimide

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Total Number of Pages: 2

B.PHARM
PH.3.5

3rd Semester Back Examination 2016-17
PHARMACEUTICAL CHEMISTRY-III (ORGANIC CHEMISTRY-II)

(According to Old Syllabus)

BRANCH: Pharmacy

Question Code: Y629

Time: 3 Hours

Max Marks: 70

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) Among Cis and Trans isomers, which is more stable and why?

b) What is specific rotation?

c) Meso compounds are more stable. Explain why?

d) What is walden inversion?

e) α-Hydrogen of carbonyl compounds are acidic. Explain why?

f) What is Aldol condensation reaction?

g) Discuss briefly Huckel's rule.

h) What are the uses of lithium aluminum hydride?

i) Give the structure and uses of diazomethane.

j) Phenol is acidic. Explain why?

Q2 **a)** Define and classify Isomerism with suitable examples. Discuss briefly the different types structural isomers with examples from each types. **(5)**

b) Discuss briefly the conformational isomers of ethane and butane **(5)**

Q3 What are Nucleophilic aromatic substitution reactions? Name the different mechanisms of nuceophilic aromatic substitution reactions. Discuss Benzyne mechanism with suitable examples. **(10)**

Q4 Discuss the general method of preparation and electrophilic substitution reactions of benzene with suitable examples. **(10)**

Q5 **a)** Give five methods of preparation of carboxylic acids. **(5)**

b) Discuss the chemical properties of carboxylic acids with examples **(5)**

Q6 **a)** Give the general method of preparations of aldehides and ketones. **(5)**

b) Discuss briefly the nucleophilic addition reactions of aldehydes and ketones **(5)**

Q7 Discuss the general method of preparations and characteristic reactions of phenol with examples from each category. **(10)**

Q8 **Write short notes on:** **(5+5)**

a) Stereo specific and stereo selective reactions

b) Enantiomerism and diastereomerism

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Total Number of Pages: 02 **B.Pharm**
15PH304

3rd Semester Regular Examination 2016-17
PHARMACOGNOSY-II
BRANCH: PHARMACY
Time: 3 Hours
Max Marks: 100
Q.CODE: Y685
Answer Part-A which is compulsory and any four from Part-B.
The figures in the right hand margin indicate marks.

Part – A (Answer all the questions)

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

a) Jasmone present in Mentha responsible for. (Flavour/Taste)

b) Tomato is an antioxidant. (True/False)

c) Synonym of Dill. (Carum/Anethum)

d) Family of Silk. (Bombycidae/Malvaceae)

e) Annatto is a natural colour. (True/False)

f) Chemical responsible for sweet taste of Fennel. (Geraniol/Anethole)

g) Allergens are not glycoprotein. (True/False)

h) Family of Lemon peel. (Ericaceae/Rutaceae)

i) Von Perquatte defined Allergy. (True/False)

j) Family of Cinnamon. (Lauraceae/Myrtaceae)

Q2 Answer the following questions: ***Short answer type*** **(2 x 10)**

a) What is the biological source of Musk?

b) Write the chemical constituents of Nutmeg.

c) Define Pharmaceutical aids.

d) Write two uses of Citronella oil.

e) Write the chemical constituents of Turmeric.

f) Write the biological source of Garlic.

g) Write the biological source of Sandal wood.

h) Write the chemical constituents of Coriander.

i) Write the important properties of Volatile oil.

j) Write the uses of Gingko biloba.

Part – B (Answer any four questions)

Q3	**a)**	Define Natural allergen. Describe in details about different types of natural allergen with suitable example.	**(10)**
	b)	Write short notes on Photosensitizing agent with examples.	**(5)**
Q4	**a)**	Define antioxidant and describe the different types of antioxidant with suitable examples.	**(10)**
	b)	Write the Biological source, Chemical constituents and Uses of Momordica.	**(5)**
Q5	**a)**	Describe in details about general methods of extraction of Volatile oil.	**(10)**
	b)	Write the classification of Volatile oil with example.	**(5)**
Q6	**a)**	Describe the detail and systematic Pharmacognostic study of Clove.	**(10)**
	b)	Write the Biological source, Chemical constituents and Uses of Gaultheria.	**(5)**
Q7	**a)**	Describe the historical prospects and development of Plant Biotechnology.	**(10)**
	b)	Write the application of Plant Biotechnology in Pharmacy and allied fields.	**(5)**
Q8	**a)**	Write the Source, Chemical constituents and Uses of Wool and Asbestos.	**(10)**
	b)	Classify different types of Fibres with examples.	**(5)**
Q9	**a)**	Write the Source, Chemical constituents and Uses of Bentonite and Gelatin.	**(10)**
	b)	Write notes on Chocheneal.	**(5)**

Registration No:

Total number of printed pages- 2

B.Pharm
PH.3.7

3rd Semester Back Examination 2016-17
PHARMACOGNOSY-III
(According to Old Syllabus)
BRANCH: Pharmacy
Full Marks-70
Time: 3 Hours
Q.Code: Y684

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

1. **Answer the following questions:** **(2 x 10)**
   - **a)** What is Glycoside?
   - **b)** Define Tissue Culture.
   - **c)** Write the examples of Plant secondary metabolites.
   - **d)** Write two uses of Liquorice.
   - **e)** Write the chemical constituents of Strophanthus.
   - **f)** Write the biological source of Senega.
   - **g)** Write the name of two Marine drugs.
   - **h)** Write the chemical constituents of Chirata.
   - **i)** Write the biological source of Quassia.
   - **j)** Give two examples of Proteolytic enzyme.
2. Write the details about the general method of isolation of Glycoside. **(10)**
3. Describe in details about the different types of Plant tissue culture. **(10)**
4. **a**) Write the biosynthetic study of aromatic amino acid. **(7+3)**
   b) Write notes on Basic metabolic pathway.
5. Write Biological source, Preparation, Identification test and Uses of followings. **(5+5)**
   a) Diastase
   b) Papain

6. Write notes on: **(5+5)**

a) Application of Plant tissue culture.

b) Poisonous plants in India.

7. Write the Biological source, Chemical constituents, Chemical test and Uses of followings.

a) Digitalis **(5+5)**

b) Senna

8. Write short notes on (Any two): **(5+5)**

a) Biogenesis of Tropane alkaloid.

b) Pharmacognostic study of Aloe.

c) Requirements for preparation of Culture medium.

d) Pepsin.

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Total Number of Pages: 02

B.PHARM
15PH305

3rd Semester Regular Examination 2016-17
PATHOPHYSIOLOGY OF COMMON DISEASES
BRANCH: PHARMACY

Time: 3 Hours

Max Marks: 100

Q.CODE: Y729

Answer Part-A which is compulsory and any four from Part-B.
The figures in the right hand margin indicate marks.

Part – A (Answer all the questions)

Q1 **Answer the following questions:** ***multiple type or dash fill up type*** **(2 x 10)**

a) Triple signs of inflammation are _____.

b) Elaborate the term AKI _____.

c) Gouty Arthritis is due to _____.

d) Insufficient oxygen supply to any part of myocardium leads to
i) Congestive Heart Failure ii).Angina Pectoris
iii) Myocardial Infarction iv) Hypotension

e) The key agents involved in pathogenesis of Bronchial asthma are _____.

f) Which of the following hepatitis virus is not RNA virus
i) Hepatitis A virus ii) Hepatis B Virus
iii)Hepatis E Virus iv) Hepatis G Virus

g) This disease loves the big toe and patient may present with
i) Gout, Gallstone ii) Paranychia,Apendicitis
iii) Gout, Kidney stone iv) Paranychia,Kidney stone

h) Cloudy changes or Hydropic changes is due to _____.

i) The serous membrane in the peritoneal cavity is called
i)peritonium ii)myocardium iii)epithelium iv)gullet

j) Venous Emboli are most often lodged in
i) Intestine ii) kidney iii) Heart iv) Lungs

Q2 **Answer the following questions:** ***Short answer type*** **(2 x 10)**

a) Write the symptoms of hepatic failure.

b) Enumerate the causes of acute renal failure.

c) Define neoplasia.

d) Enumerate the different mediators involved in inflammation.

e) Define apoptosis.

f) What do you mean by congestive heart failure?

g) Name different STDs.

h) Define Chemotaxis.

i) What are the different types of hypoxic injuries?

j) Elaborate the terms PAF & TNF.

Part – B (Answer any four questions)

Q3 **a)** Define reversible cell injury. Discuss in details about pathogenesis of cell injury. **(10)**

b) Write short notes on cellular adaptation. **(5)**

Q4 **a)** Discuss about the process of inflammation and chemical mediators of inflammation. **(10)**

b) Write a short outline on process of repair. **(5)**

Q5 **a)** Describe the causes, clinical features, and pathophysiology of Bronchial Asthma. **(10)**

b) What is Hypoxia. Discuss about various types of hypoxic injury? **(5)**

Q6 **a)** Explain the etiology and pathophysiology of ischemic stroke. **(10)**

b) Write shortly about the role of hereditary and environmental factors in the development of essential Hypertension. **(5)**

Q7 **a)** Discuss details about pathophysiology of peptic ulcer. **(10)**

b) Write short notes on 1.H.pylori induced ulcer 2.Chronic pancreatitis **(5)**

Q8 **a)** Explain briefly about etiology and pathogenesis of chronic renal failure. **(10)**

b) Write shortly about malignant and benign tumor. **(5)**

Q9 **a)** Discuss details about the etiopathogenesis of diabetes mellitus. **(10)**

b) Write short notes on hyperglycemic ketoacedosis. **(5)**

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Total Number of Pages: 02

B.PHARM
PH.3.9

3rd Semester Back Examination 2016-17
PATHOPHYSIOLOGY OF COMMON DISEASES
(According to Old Syllabus)

BRANCH: Pharmacy
Time: 3 Hours
Max Marks: 70
Q.CODE: Y730

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 the physical and chemical agent causing of inflammation.
b) Define endotoxemia.
c) Explain the Atheroma.
d) Write various causative agent of cancer.
e) Define the term stable angina.
f) Difference between mania and depression.
g) Define Adaptation.
h) Name the common pathogenic organisms responsible for urinary tract infection.
i) Differentiate between acute inflammation and chronic inflammation.
j) Causes of cirrhosis of liver.

Q2 What is cell injury? Write detail note on reversible cell injury. **(10)**

Q3 **Write short note on:**

a) Jaundice. **(05)**
b) Rheumatoid Arthritis. **(05)**

Q4 Classify inflammation. Write a note on cell derived chemical mediators of inflammation. **(2+8)**

Q5 **Write short note on:**

a) Peptic ulcer. **(5)**
b) Gout. **(5)**

Q6 Define diabetes mellitus? Enumerate the type, pathophysiology, sign and symptoms of diabetes mellitus. **(2+8)**

Q7 What is Angina pectoris? Describe the various type, cause and clinical features of Angina pectoris. **(2+8)**

Q8 **Give short note on the following:** **(2.5 x 4)**

a) Anaemia.

b) Epilepsy.

c) Fatty liver.

d) STD.

Registration no: | | | | | | | | | | |

Total Number of Pages: 3

B.PHARM
15PH306

3rd Semester Regular Examination 2016-17

ENVIRONMENTAL SCIENCE

(According to New Syllabus)

BRANCH(S): Pharmacy
QUESTION CODE: Y521
Time: 3 Hours
Max Marks: 100

Answer Part-A which is compulsory and any four from the Part-B.

The figures in the right hand margin indicate marks.

Part-A (Answer the following)

Q.1 Choose the correct answer: **(2 x 10)**

a) A high Biological Oxygen Demand (BOD) indicates that:
   a) Water is pure
   b) Absence of microbial action
   c) Low level of microbial pollution
   d) High level of microbial pollution

b) Which of the following is a likely characteristic of hazardous waste?
   a) Ignitability
   b) Corrosivity
   c) Reactivity
   d) Any of the above

c) Biotic environment includes
   a) Producers
   b) Consumers
   c) Decomposers
   d) All of the above

d) Which of the following is not an air pollutant?
   a) Smoke
   b) Carbon Dioxide
   c) Nitrogen Gas
   d) Sulphur Dioxide

e) Which of the following plays an important role in the cause of rainfall
   a) Evaporation
   b) Condensation
   c) Both evaporation & condensation
   d) Filtration

f) Fluoride pollution mainly affects:
- (a) Kidney
- (b) Brain
- (c) Heart
- (d) Teeth

g) Which of the following does not cause soil erosion?
- a) Wind
- b) Overgrazing
- c) Sun
- d) Water

h) Problem of solid waste disposal can be reduced through…….
- a) Recycling
- b) Lesser pollution
- c) More timber
- d) Population control

i) Layer of atmosphere in which Ozone layer lies is
- a) exosphere
- b) mesosphere
- c) troposphere
- d) stratosphere

j) The group of organisms which convert light into food are called
- a) Autotrophs
- b) Heterotrophs
- c) Decomposers
- d) Omnivores

Q.2 **Answer the following:** **(2x10)**

a) What do you mean by 'RO'?

b) What are non-criteria pollutants? Give examples.

c) Distinguish between BOD and COD.

d) What are the waste minimization techniques?

e) Define Food chain and Food web.

f) Write the name of different kind of Indian soils.

g) Define 'Life cycle assessment'.

h) What are coagulants? Write the name of three.

i) Distinguish between Pyrolysis and Combustion.

j) What are biomedical wastes? Write down some examples.

Part-B (Answer any four questions)

Q.3	**a)**	Define Ecology. Write down the principle of ecology	**5**
	b)	What do you mean by Ecosystem? Classify it, write down the function and components of ecosystem.	**2+8**
Q.4	**a)**	Write down the physical properties of sound.	**5**
	b)	What is noise pollution? Discuss in detail about the causes, effects and control of noise pollution.	**2+8**
Q.5.	**a)**	Define air pollution, classify the air pollutant and write down about criteria pollutant.	**2+8**
	b)	What is Global warming? Write down its effect.	**5**
Q.6	**a)**	What is MSW? Write down the collection and storage process of MSW.	**5**
	b)	Write down the source and management of hazardous waste.	**4+6**
Q.7.	**a)**	What are the benefits of waste minimization?	**5**
	b)	What is EIA? Discuss the procedure and preparation of EIS?	**10**
Q.8	**a)**	Describe activated sludge treatment process.	**6**
	b)	What are the causes of ground water pollution? Write down the conventional water treatment process	**3+6**
Q.9		**Write notes on:-(Any three)**	**5x3**
	a)	Soil degradation	
	b)	Anaerobic digestion and its application	
	c)	Environmental auditing	
	d)	Hydrological cycle	
	e)	Green house effect	

Registration no: | | | | | | | | | | |

Total Number of Pages:2

B.PHARM
PH 3.10

3rd Semester Back Examination 2016-17
ENVIRONMENTAL SCIENCE
(According to Old Syllabus)
BRANCH: Pharmacy
QUESTION CODE: Y522
Time: 3 Hours

Max Marks: 70

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 renewable and nonrenewable energy resources.

b) What are non-criteria pollutants? Give examples.

c) Write the name of different kind of Indian soils.

d) What do you mean by activated sludge process?

e) Write down the characteristic of hazardous waste.

f) Define anaerobic digestion and its application.

g) Define 'Life cycle assessment.

h) What are coagulants? Write the name of any three.

i) Distinguish between Pyrolysis and Incineration.

j) Define precipitation and mention the mechanism of precipitation.

Q2 What is noise? Discuss in detail about the causes, effects and control of noise pollution. **(3+7)**

Q3 Describe the various stages involved in MSW management. **(10)**

Q4 Write down the different steps involved in waste water treatment. Discuss detail about activated sludge treatment process. **(10)**

Q5 Define ecosystem. Briefly explain the air cycle and water cycle. **(10)**

Q6 Write notes on: **(5+5)**

a) Green house effect. **b)** Treatment of hazardous waste.

Q7 What is EIA? Discuss the procedure and preparation of EIS? **(10)**

Q8 **Write short notes on : (Any two)** **(5 +5)**

a) Environmental auditing

b) Soil Pollution

c) Global warming

d) Acid rain