**Registration No :**

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**B.Pharma**
**15PH306**

**3rd Semester Back Examination 2019-20**
**ENVIRONMENTAL SCIENCE**
**BRANCH : B.PHARMA**
**Max Marks : 100**
**Time : 3 Hours**
**Q.CODE : HB810**
**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 do you mean by "RO"?
b) Differentiate between food chain and food web?
c) Distinguish between BOD and COD.
d) What are Coagulants? Write the name of Three.
e) What are non-criteria pollutants? Give Examples.
f) What are the waste minimization techniques?
g) What are biomedical wastes? Write down some examples.
h) Distinguish between Paralysis and Combustion.
i) Define 'Life cycle assessment'.
j) Write the name of different kind of Indian soils.

**Part-II**

**Q2      Only Focused-Short Answer Type Questions-  (Answer Any Eight out of Twelve)      (6 x 8)**
a) What are the Physical and chemical factors of an Ecosystem?
b) Classify and explain about generation of different Hazardous wastes?
c) Write in short about Anaerobic digestion.
d) Classify the waste reduction techniques with suitable examples.
e) What are the benefits of a waste minimization Programme ?
f) Write down the Physical properties of sound?
g) What is MSW? Write down the collection and storage process of MSW.
h) Describe different methods of noise and outline various noise control Methods.
i) Write notes on Energy flow in an Ecosystem?
j) Explain about the control measures of Soil Pollution.
k) What are the steps to be taken for" life cycle "Assessment?
l) List the factors that reduce the amount of direct ran off.

**Part-III**
**Only Long Answer Type Questions (Answer Any Two out of Four)**

**Q3**      Discuss in detail about the aim and objective of Environmental Impact Assessment (EIA). Explain the different phases of EIA.                    **(16)**

**Q4**      Explain about ground water contamination, its investigation and pollution prevention.      **(16)**

**Q5**      Define ecosystem and describe its components with suitable examples.      **(16)**

**Q6**      Describe the various stages involved in MSW management.      **(16)**

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**3ʳᵈ Semester Back Examination 2019-20**
**ENVIRONMENTAL SCIENCE**
**BRANCH : B.Pharma**
**Time : 3 Hours**
**Max Marks : 70**
**Q.CODE : HB811**
**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 field Capacity?
**b)**  What is Hydrological Cycle?
**c)**  What are non-criteria Pollutants? Give Examples.
**d)**  What is waste water treatment?
**e)**  What is B.O.D?
**f)**  What is Energy Budget?
**g)**  What are the limitations of Ecological pyramids?
**h)**  Differentiate between food chain and food web?
**i)**  Define Ecology?
**j)**  State the physical properties of sound?

**Q2**  **a)**  What are Criteria Pollutants? Describe about any two suitable example.     **(5)**
       **b)**  Explain Carbon Cycle using a neat labelled Diagram.                         **(5)**

**Q3**  **a)**  Write the different sources of water contamination.                         **(5)**
       **b)**  Describe the different water pollution control measure?                      **(5)**

**Q4**  **a)**  Write notes on Ecological Pyramids?                                         **(5)**
       **b)**  Name the functions of Ecosystem?                                            **(5)**

**Q5**  **a)**  Explain about Acid rain?                                                    **(5)**
       **b)**  Describe about the causes of Ozone Depletion.                               **(5)**

**Q6**  What is waste water treatment? Explain about the different steps of waste water    **(10)**
       treatment.

**Q7**  What is the noise Pollution? Describe in detail about noise Criteria and Control    **(10)**
       of noise Pollution.

**Q8**  **Write short Notes on any TWO :**                                                 **(5 x 2)**
**a)**  Write short notes on Carbon cycle.
**b)**  Write short notes on Medical hazardous wastes.
**c)**  What is Global warming?
**d)**  Write notes on green house effect.

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**3ʳᵈ Semester Back Examination 2019-20**
**ORGANIC CHEMISTRY-II**
**BRANCH : B.Pharma**
**Max Marks : 100**
**Time : 3 Hours**
**Q.CODE : HB877**
**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 Metamerism.
b) State the use of Aluminium tert-butoxide.
c) What is Specific rotation?
d) What is Huckel's rule of aromaticity?
e) State the use of Aluminium tert-butoxide.
f) What is Relative configuration ?
g) Write about Asymmetric carbon.
h) Write the structure of Furan& Pyrrole.
i) What is Internal compensation.
j) What is Lithium Aluminium Hydride ?

**Part-II**

**Q2      Only Focused-Short Answer Type Questions- (Answer Any Eight out of Twelve)     (6 x 8)**
a) Explain why phenol acidity of phenol.
b) Walden inversion.
c) Stereoselective and stereospecific reactions.
d) Friedel crafts alkylation reaction.
e) Discuss the preparation & Application of Diazomethane.
f) Explain CIP Rule.
g) Discuss General Method of Preparation of Phenol.
h) Illustrate Keto-Enol tautomerism with suitable example.
i) Write a short note on Geometrical Isomerism.
j) Explain Reimer-Tiemann Reaction?
k) Write a short note on N-Bromo-succinimide.
l) Explain Enantiomerism & Diastereoisomerism.

**Part-III**
**Only Long Answer Type Questions (Answer Any Two out of Four)**

**Q3**      Discuss the general method of preparation & Reaction of indole. Describe the chemical       **(16)**
              properties of Indole.

**Q4**      What is Racemic mixture? Explain the different method of Resolution of racemic                  **(16)**
              mixture.

**Q5**      Discuss the Preparation and chemical reactions of anthracene.                                              **(16)**

**Q6**      Write the general method of preparation & Chemical reaction of Benzene.                             **(16)**

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**3<sup>rd</sup> Semester Back Examination 2019-20**
**PATHOPHYSIOLOGY OF COMMON DISEASES**
**BRANCH : B.Pharma**
**Time : 3 Hours**
**Max Marks : 70**
**Q.CODE : HB750**
**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 are signs of Inflammation?
   **b)** Differentiate between Depression and Mania?
   **c)** Write about Parkinson's disease.
   **d)** Write about Bronchial asthma.
   **e)** What is Thalasemia?
   **f)** Write about Hemophilia.
   **g)** What is acute renal failure?
   **h)** What are cellular events of Inflammation?
   **i)** What are cellular adaptations?
   **j)** What is feedback system?

**Q2** **a)** Explain Congestive heart failure and write about etiology and pathogenesis.   **(5)**
     **b)** Explain Myocardial infarction and write about its pathogenesis.                 **(5)**

**Q3** **a)** Explain Diabetes mellitus and write about its types, etiology and pathogenesis.  **(5)**
     **b)** What is Rheumatoid arthritis? Write about its cause and pathogenesis.          **(5)**

**Q4** **a)** Explain Viral hepatitis. Write about the types and their features.            **(5)**
     **b)** Explain Anemia. Write about its causes and symptoms.                            **(5)**

**Q5** **a)** What is an ulcer? Write a note about Peptic ulcer.                             **(5)**
     **b)** Write a note on Chronic inflammation and repair.                                **(5)**

**Q6**  What is cell injury? Discuss the causes of cell injury and write a note on         **(10)**
        reversible cell injury.

**Q7**  Define diabetes mellitus. Write a note on its classification, causes, progression  **(10)**
        and complications of the disease.

**Q8**  **Write short Notes on any TWO :**                                                  **(5 x 2)**
   **a)** Classification, etiology and pathogenesis of Cancer
   **b)** Atherosclerosis
   **c)** STD and AIDS

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B.Pharm
PH.3.1

3rd Semester Back Examination 2019-20
**PHARMACEUTICS - II**
BRANCH : B.Pharma
Max Marks : 70
Time : 3 Hours
Q.CODE : HB520
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 are liquid crystals
b) What is BET adsorption isotherm? Write its significance
c) Isotonicity must be maintained incase of ophthalmic and parenteral preparation. True / False. Justify
d) How polymorphs influence pharmaceutical dosage form development explain.
e) Define and differentiate between sublimation and deposition. Give examples of any two agents exhibiting sublimation
f) What do you mean by buffer capacity, write the equation to determine it
g) What are surface active agents give example of any two of them
h) Define eutectic mixture.
i) Write down the equation of Henderson- Hasselbalch equation
j) Write any two applications of complexation in pharmacy

**Q2** a) Write short note on spreading coefficient and its derive an equation for it (5)
b) Explain the term colligative properties. Express methods for determination of freezing point depression and osmotic pressure (5)

**Q3** a) Write short note on Freundlich Adsorption isotherm (5)
b) Differentiate between solids and liquids. Write a note on kinetic theory of gases (5)

**Q4** a) Write note on partition coefficient (5)
b) What do you mean by HLB. Analyze its role in selection of surface active agents for development of suspension or emulsion (5)

**Q5** a) Write note on Debay Huckel Theory (5)
b) Derive the equation for protein binding kinetics (5)

**Q6** Write the principle involved in second law of thermodynamics. Derive equation for the efficiency of heat engine with suitable example. (10)

**Q7** What is CMC? Explain the phase equilibiria for a two component system containing liquid phase like phenol-water with help of temperature curve. (10)

**Q8** **Write short answer on any TWO :** (5 x 2)
a) Measurement of tonicity
b) Buffered isotonic system
c) Van'stoff equation and Clausius Clapeyron equation

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**3rd Semester Back Examination 2019-20**
**PHARMACOGNOSY-II**
**BRANCH : B.PHARMA**
**Max Marks : 100**
**Time : 3 Hours**
**Q.CODE : HB670**
**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 the biological source of Fennel?
   **b)**   Define Pharmaceutical aids.
   **c)**   Write the chemical constituents of Musk.
   **d)**   Write two uses of Valerian.
   **e)**   What are the chemical constituents of Momordica?
   **f)**   What are the uses of Garlic?
   **g)**   State the biological source of Cardamom.
   **h)**   Write the chemical constituents of Sandal wood.
   **i)**   State the important properties of Volatile oil.
   **j)**   Write the biological source of Turmeric.

**Part-II**

**Q2**     **Only Focused-Short Answer Type Questions-  (Answer Any Eight out of Twelve)**     **(6 x 8)**
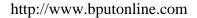   **a)**   Describe Photosensitizing agent with examples.
   **b)**   Write the application of Plant Biotechnology in Pharmacy and allied fields.
   **c)**   What are the Source, Chemical constituents and Uses of Cotton and Wool?
   **d)**   State the classification of Fibres with examples.
   **e)**   Write the Biological source, Chemical constituents and Uses of Ginkgo biloba.
   **f)**   Write the classification of Volatile oil with example.
   **g)**   Write notes on Annatto.
   **h)**   Describe in details about general methods of extraction of Volatile oil.
   **i)**   Write the Biological source, Chemical constituents and Uses of Citronella.
   **j)**   What are the Source, Chemical constituents and Uses of Mentha and Dill?
   **k)**   Explain different types of antioxidant with suitable examples.
   **l)**   Write the Biological source, Chemical constituents and Uses of Clove.

**Part-III**

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

**Q3**     Enumerate the historical prospects and development of Plant Biotechnology.     **(16)**

**Q4**     Describe the detail and systematic Pharmacognostic study of Cinnamon.     **(16)**

**Q5**     Write the Source, Chemical constituents and Uses of Gelatin and Diatomite.     **(16)**

**Q6**     What are the different types of natural allergen? Describe in details with suitable     **(16)**
           example.

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**3rd Semester Back Examination 2019-20**
**PHYSICAL PHARMACEUTICS-I**
**BRANCH : B.Pharma**
**Max Marks : 100**
**Time : 3 Hours**
**Q.CODE : HB518**
**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)**   Define solubility and solubility product
   **b)**   Isotonicity must be maintained for infusion fluids. Justify
   **c)**   State the meaning of the terms HLB and CMC
   **d)**   How amorphous solids influence bioavailability explain
   **e)**   Describe the term phase rule
   **f)**   Why do crystals demonstrate X ray diffraction comment
   **g)**   What do you mean by buffer capacity and buffer action
   **h)**   Differentiate between crystals and liquid crystals
   **i)**   What is zeta potential? Mention its significance
   **j)**   State about enthalpy of a system.

**Part- II**

**Q2**    **Only Focused-Short Answer Type Questions- (Answer Any Eight out of Twelve)**          **(6 x 8)**
   **a)**   Discuss about complexation and its application in pharmacy
   **b)**   Explain phase rule along with derivation
   **c)**   Describe the methods for preparation of Isotonic Solution
   **d)**   Distinguish between upper and lower consulate temperature with reference to phenol water system
   **e)**   Illustrate with example buffer action with respect to weak acid and weak base
   **f)**   Derive Langmuir adsorption Isotherm
   **g)**   Write note on determination of surface tension by capillary rise method
   **h)**   Write note on colligative properties
   **i)**   Application of adsorbents in pharmacy
   **j)**   Write note about electrical double layer when drug is dispersed in liquid medium with help of diagram.
   **k)**   What are surface active agents classify them based on HLB scale. Also attach a note on their application in pharmacy
   **l)**   What do you mean by mesophase explain with suitable examples

**Part-III**

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

**Q3**    Describe the methods by which stability test can be conducted for formulated finished products                                                                                 **(16)**

**Q4**    Derive protein binding equation and also write about the factors that are affected by protein binding                                                                          **(16)**

**Q5**    Write note on the factors that influence solubility of active agents                   **(16)**

**Q6**    State BET equation and explain its application in Pharmacy                               **(16)**