

**BPH30112**  
**B.Pharmacy (III Semester) Examinations - February, 2016**  
(Regulation 2012-13)  
Regular / Supplementary  
**Paper-I: Pharmaceutical Chemistry-II (Organic-II)**

Time : Three Hours

Maximum Marks: 70

Answer all questions.

(5x14=70)

1. What is enantiomerism? Discuss the characteristics of enantiomers. Add a note on diastereomerism.

(or)

What is racemic mixture? Discuss the methods of resolution of racemic mixtures.

2. What is aromaticity? Describe the characteristics of aromatic compounds.

(or)

Write the mechanism of nitration, sulfonation and halogenations of benzene.

3. Discuss the method of preparation and reactions of quinoline.

(or)

a) Write the structures and medicinal uses of

i) Phenazocine

ii) Nikethamide

iii) Phenothiazine

iv) Acridine

v) Diethylcarbamazine

vi) Metronidazole

vii) Chloroquine

4. How is naphthalene prepared? Discuss the important electrophilic substitution reactions it undergoes.

(or)

Write the structures and medicinal uses of

i) Codeine

ii) Phenindione

iii) Naphazoline

iv) Tolnaftate

v) Propranolol

vi) Morphine

vii) Menadione

5. Write the mechanism and applications of

i) Beckmann rearrangement

ii) Mannich reaction

(or)

Give an account of the applications of N-Bromosuccinimide and  $\text{LiAlH}_4$  in organic synthesis.

**BPH30312**  
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**Paper-II: Pharmaceutical Engineering-I**

Time : Three Hours

Maximum Marks: 70

**Answer all questions**

1. Enumerate the factors influencing the mixing of solids. Explain the working of V cone and rotocube mixers with their advantages.  
OR
  2. a) Write the differences between laboratory scale, pilot scale and industrial scale. 4  
b) What are the problems of vortex formation and write about the techniques for its prevention. 10
  3. Write about the methods for the measurement of fluid flow highlighting their relative merits.
  4. a) Give the classification of valves and explain the working of globe valve. 9  
b) Write about the differences between reciprocating and centrifugal pumps 5
  5. Give the classification of materials of plant construction and write in detail about different types of steels and their applications in pharmaceutical industry.  
OR
  6. a) Give the classification of corrosion and enumerate the factors influencing corrosion and methods for its prevention. 9  
b) Mention the causes for mechanical hazards in pharmaceutical industry and their prevention. 5
  7. a) Define the terms humidity, relative humidity, humid heat and dew point. 4  
b) Write about humidity chart and its applications. 10  
OR
  8. a) Explain the working of psychrometer. 5  
b) Write about the dehumidification techniques suitable for pharmaceutical industry. 9
  9. a) Write about forces responsible for size reduction. 6  
b) Explain the working principle of ball mill. What is critical speed and mention its significance. 8  
OR
  10. Write about the screening equipment for solids.
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Time : Three Hours

Maximum Marks: 70

Answer all questions

5 x 14 = 70

1. a) Describe the structural characteristics of the following:  
i) Bacteria                      ii) Protozoa  
b) Define mutation. Describe different types of mutations. Add note on mutagens.  
(OR)
2. a) Classify the bacteria based on optimum growth temperature and oxygen requirements and give example for each.  
b) Describe in detail about bacterial conjugation
3. a) Write the theory of staining. Explain the principle involved acid-fast staining.  
b) Write the effects of the following on bacterial growth:  
i) Osmotic pressure                      ii) UV light  
(OR)
4. a) Describe in detail about various methods used for isolation of pure culture.  
b) Write the principle involved phosphatase test. Mention various methods used for preservation of cultures.
5. a) Explain the terms 'disinfection' and 'sterilization'. Write principle involved moist heat sterilization and construction & working of autoclave.  
b) Write the mechanism of action, merits and demerits of the following disinfectants  
i) Chlorine                      ii) Alcohol  
(OR)
6. a) Write the conditions used, mode of action and applications of the following sterilization methods  
i) by filtration                      ii) by ethylene oxide  
b) Explain the terms bacteriostat and bactericide. Write the factors affecting disinfection.
7. a) Differentiate between humoral and cell mediated immunity. Add note on structure of antibody.  
b) Write about the following serological reactions:  
i) Agglutination                      ii) Precipitation  
(OR)
8. a) Explain the action of vectors and reservoirs in transmission of disease with examples.  
b) Write the general methods of immunization.
9. Write etiology, diagnosis, source of infection, mode of transmission, prevention and control of the following diseases.  
i) Diphtheria                      ii) Gonorrhoea                      iii) Amoebiasis  
(OR)
10. Write etiology, diagnosis, source of infection, mode of transmission, prevention and control of the following diseases.  
i) Syphilis                      ii) Leprosy                      iii) Typhoid

**BPH30612**  
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**Paper-IV: Anatomy & Physiology**

Section-A

Answer any THREE questions

3 x 10 = 30

1. Classify connective tissue with suitable examples. Mention their functions.
2. Discuss about neuronal transmission in CNS.
3. Explain the conduction of cardiac impulse.
4. Describe the digestion of food in small intestine.
5. Describe the structure and functions of ovaries.

Section-B

Answer any TEN questions

10 x 4 = 40

6. Write about the transport of ions through cell membrane.
7. Write a note on physiology of taste.
8. Draw a neat labeled diagram of eye.
9. Describe the functions of thalamus and hypothalamus.
10. Write short notes on renin angiotensin system.
11. Write about the transport of respiratory gases.
12. Write short notes on thyroid hormones.
13. Describe the functions of adrenal cortex hormones.
14. List out the functions of parasympathetic nervous system.
15. Draw a neat labeled diagram of nephron.
16. Discuss briefly about functions of blood.
17. Write a note on reflex action.

