

**(BPH30112)**

B.Pharmacy DEGREE EXAMINATION,  
JANUARY 2018.

(Regular/Supplementary)

Third Semester

Paper I — PHARMACEUTICAL CHEMISTRY — II  
(ORGANIC — II)

(Regulation 2012–2013)

Time : Three hours

Maximum : 70 marks

Answer ALL questions.

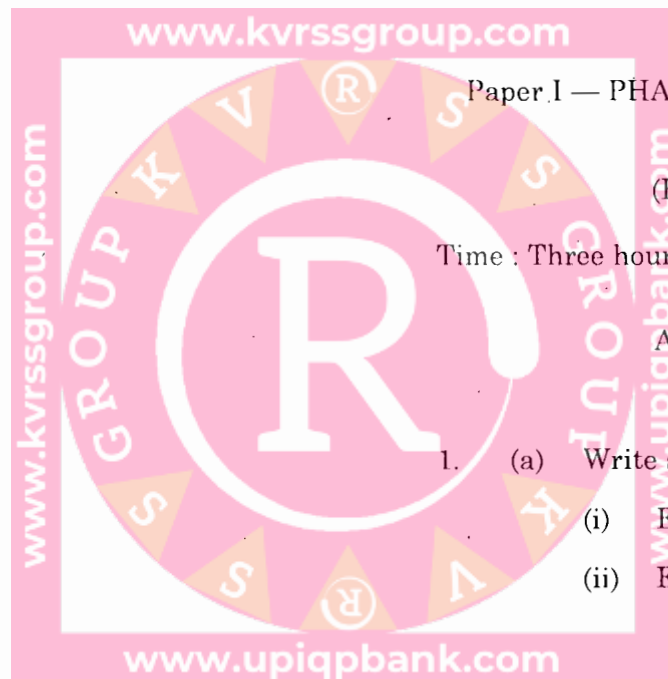
(5 × 14 = 70)

1. (a) Write short notes on :

- (i) Enantiomerism
- (ii) Elements of symmetry.

Or

- (b) What is geometric isomerism? Write in detail on nomenclature, determination of configuration and biological significance of geometric isomerism.



2. (a) Write in detail on :
- Electronic structure of benzene
  - Chemistry of diazonium salts.

Or

- (b) Write in detail on mechanism of aromatic electrophilic substitution reactions. Add a note on orientation effect of functional groups in monosubstituted benzenes

3. (a) Give reasons for the following :
- Benzene does not decolorize bromine water
  - Diethylamine is more basic than ammonia
  - FC alkylation reaction is performed in dry solvents.

Or

- (b) Explain the following :
- Proton present on  $\beta$  carbon of  $\alpha\beta$ -unsaturated carbonyl is acidic
  - P-nitrophenol is more acidic than phenol
  - Napthalene easily undergoes addition reactions than benzene.

4. (a) Write in detail on methods of preparation and reactivity of pyrrole.

Or

- (b) Explain the synthesis and properties of quinolone. Add a note on importance of heterocycles in medicinal chemistry.

5. (a) Write in detail on :

- Beckmann rearrangement
- Fries Rearrangement.

Or

- (b) Explain the method of preparation and synthetic applications of

- NBS
- Lead Tetra acetate.



4. (a) Explain the working of gate and globe valves highlighting the differences in between them. (8)
- (b) Explain the working of diaphragm pump. Mention its applications. (6)

5. Give the classification of materials of plant construction and write about types of steels and their applications in pharmaceutical industry.

Or

6. (a) Give the classification of corrosion with suitable examples. Write about factors causing corrosion and methods for combating corrosion. (9)
- (b) Write about dust hazards and their prevention. (5)
7. (a) Define the terms humidity, relative humidity, humid heat and dew point. (6)
- (b) Write about humidity chart and its applications. (8)

Or

8. (a) Explain the working of psychrometer. (5)
- (b) Explain the working of industrial refrigeration equipment. (9)

9. (a) Explain the methods for studying size distribution of particles. (6)
- (b) Explain the working of ball mill. What is critical speed and mention its significance?(8)

Or

10. Write about the screening equipment for solids.

(b) Write etiology, diagnosis, source of infection, mode of transmission, prevention and control of the following diseases.

- (i) Syphilis
- (ii) Food poisoning
- (iii) Amoebiasis.

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Third Semester

Paper III — PHARMACEUTICAL MICROBIOLOGY

(Regulation 2012-13)

Time : Three hours

Maximum : 70 marks

Answer ALL questions.

(5 × 14 = 70)

1. (a) Describe the structural characteristics of the following :

- (i) yeast
- (ii) eubacteria.

(b) Write the various types of mutations. Add note on nitosoguanidine.

Or

(c) Classify the bacteria based on oxygen requirement and give example for each.

(d) Describe in detail about bacterial transduction.

2. (a) Write the theory of staining. Explain the principle involved Gram's staining.
- (b) Write the effects of the following on bacterial growth.
- (i) ultrasonic waves
- (ii) pH.

Or

- (c) Describe in detail about various methods used for isolation of pure culture.
- (d) Write the principle involved methylene blue reductase test. Mention various methods used for preservation of cultures.
3. (a) Explain the terms 'sanitizer' and 'germicide'. Write the working principle and construction of autoclave.
- (b) Write the mechanism of action, merits and demerits of the following disinfectants.
- (i) Iodine
- (ii) Phenol.

Or

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- (c) Write the conditions used, mode of action and applications of the following sterilization methods.
- (i) Dry heat
- (ii) Membrane filtration.
- (d) Explain the terms 'fungicide' and 'fungistat'. Write the factors affecting disinfection.

4.

- (a) Write about cell mediated immunity. Add note on structure of antibody.
- (b) Write the principle of the following serological reactions.
- (i) agglutination
- (ii) opsonization.

Or

- (c) Write about the vectors in transmission of disease with examples.
- (d) Write in detail the principle of ELISA.

5.

- (a) Write etiology, diagnosis, source of infection, mode of transmission, prevention and control of the following diseases.
- (i) Tetanus
- (ii) Rabies
- (iii) Typhoid.

Or

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Paper IV — ANATOMY AND PHYSIOLOGY

(Regulation 2012 – 13)

Time : Three hours

Maximum : 70 marks

Answer ALL questions.

1. (a) (i) Describe briefly about basic structure of human skeleton.  
(ii) What are the different types of muscular tissue? Describe in detail about physiology of muscular tissue.  
Or  
(b) (i) What is action potential?  
(ii) With a neat labeled diagram describe the structure and functions of a neuron.
2. (a) (i) Write a note on the Physiology of vision.  
(ii) What are the divisions of nervous system? Explain the functions of autonomic nervous system.

Or

- (b) (i) Describe briefly the structure and functions of skin.
- (ii) Explain the parts and functions of central nervous system.

3. (a) (i) Write a note on the events of the cardiac cycle.

- (ii) Write a detailed note on the components of the blood and their normal and abnormal functions.

Or

- (b) (i) Describe the circulation of blood in the heart.
- (ii) Describe the mechanisms of regulation of blood pressure.

4. (a) (i) Describe the anatomy of respiratory system.

- (ii) Explain in detail the physiology of respiration.

Or

- (b) (i) Describe the anatomy of G.I. tract.
- (ii) Write a note on the physiology of digestion.

5. (a) (i) Write a note on the secretions of suprarenal gland and their functions.

- (ii) Write a note on the hormones of the thyroid gland and their functions.

Or

(b) (i) With a neat labeled diagram describe the structure of nephron.

- (ii) Write a note on the Physiology of urine formation and the factors controlling it.