

Time : Three hours

Maximum Marks: 70

Answer any FIVE questions.
All questions carry equal marks

1. Explain the following:
 - a) Composition and functions of blood
 - b) Structure and functions of spleen

2. Describe the following:
 - a) Physiology of muscle contraction
 - b) Body fluids and salts during exercise

3. Explain the structure of thyroid gland, synthesis and functions of thyroid hormones.

4. Describe the anatomy and functions of female reproductive system.

5. Write about the following:
 - a) Structure and functions of Nephron
 - b) Anatomy and functions of cerebellum

6. Describe the physiology of vision with a neat labelled diagram of eye.

7. Explain the following:
 - a) Functions of accessory glands of GIT
 - b) Structure and functions of leucocytes

8. Explain about the conducting system of the heart. Add a note on ECG.

Time : Three hours

Maximum Marks: 70

Answer any Five questions. All question carry equal marks.

1. a) What are emulsions? Explain the instability conditions of emulsions? (7m)
b) Differentiate between flocculated and deflocculated suspensions? (7m)
2. a) What are the salient differences between maceration and percolation? Explain about hard continuous percolation. Mention their advantages and disadvantages with suitable examples? (9m)
b) What are the disadvantages of Theobroma oil as suppository base? Suggest alternative bases for overcoming them with relative advantages. (5m)
3. a) Define incompatibility. Write about chemical and therapeutic incompatibility with suitable examples? (10m)
b) What is Pharmacopoeia? Give the salient features of Indian Pharmacopoeia in comparison with British pharmacopoeia? (4m)
4. a) How will you dispense powders containing volatile substance and powders containing potent drugs? (7m)
b) Define posology. Discuss various factors which effect the dose of a drug in detail. (7m)
5. Write short note on the following
a) Coloring agents (5m)
b) Collodions (5m)
c) Absorbable gelatin sponge. (4m)
6. Define the following and explain their significance
a) Displacement value. (5m)
b) Proof spirit. (4m)
c) Isotonic solution. (5m)
7. a) Explain the principle and method of preparation of Mandal's paint. (7m)
b) Define prescription. Write about errors in prescription. (7m)
8. a) Find out the concentration of sodium chloride required to make 2% procaine hydrochloride isotonic with blood plasma. (Freezing point of 1% w/v of procaine hydrochloride is -0.122). (4m)
b) Convert 80% v/v alcohol into its proof strength. (5m)
c) Prepare 4800ml of 60% alcohol from 84% and 36% alcohol. (5m)

Time : Three hours

Maximum Marks: 70

Answer any Five questions. All question carry equal marks.

1. a) Write in detail on High Energy compounds. (8m)
b) Write in detail on Active transport across cell membrane (6m)
2. With a neat sketch explain the biochemical processes involved in Krebs Cycle chain. Add a note on its biological significance.
3. a) Write short notes on Cholestorol metabolism. (8m)
b) Write short notes on Diabetes (6m)
4. Write in detail on the mechanisms involved in the DNA replication. Explain how gene mutations result in a disease.
5. Write the principle, procedure and clinical significance of
a) Lipid profile test (7m)
b) Tests for hepatic function (7m)
6. Write reasons for the following:
a) Glucose appears in the urine samples of chronic diabetic patients (5m)
b) Creatinine is a very good indicator to monitor kidney function (5m)
c) Ketone bodies appear during fasting condition (4m)
7. Write in detail on
a) Role of temperature and pH on enzyme activity (9m)
b) Calcium in body fluids (5m)
8. Discuss the following:
a) Uncouplers of ETC (5m)
b) Jaundice (4m)
c) Coenzymes in oxidoreductases (5m)

Time : Three hours

Maximum Marks: 70

Answer any Five questions. All question carry equal marks.

1. Write the method of preparation, test for purity, assay and medicinal uses of 4x3.5
 - a) Paraldehyde
 - b) Urea
 - c) Aspirin
 - d) Vanillin

2. Write the mechanism, reaction conditions and synthetic applications of 2x7
 - a) Knoevenagel Reaction
 - b) Wittig Reaction

3. Discuss the following: 2x7
 - a) Polarity of covalent bond
 - b) Bronsted-Lowry acid-base theory

4. Write in detail on the following with respect to elimination reactions 2x7
 - a) Catalysis
 - b) Factors effecting orientation

5. Write short notes on: 2x7
 - a) Friedal Crafts reaction
 - b) Sandmayer reaction

6. Write reasons for the following:
 - a) Phenol decolorizes bromine water but benzene does not (5m)
 - b) Free radicals are highly reactive when compared to carbocations (4m)
 - c) Conjugated dienes are more stable than unconjugated dienes (5m)

7. Write in brief on 2x7
 - a) Aldol condensation
 - b) Michael addition

8. Classify amines with examples. Write in detail on factors effecting basicity of amines. Add a note on reactivity of amine as a nucleophile.

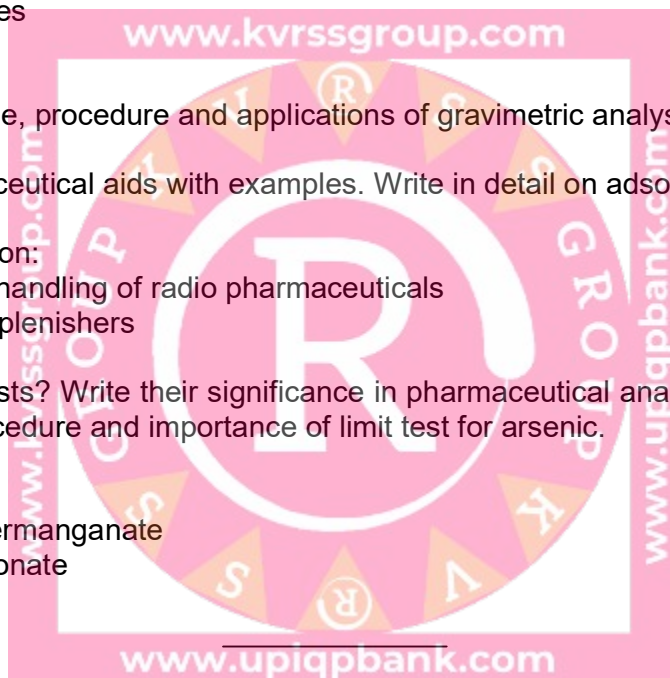
PHD10510
I Pharm. D (Regular/Supplementary) Examinations - August, 2019
(Regulation 2010-11)
(Examination at the end of First year of 6 Years Course)
Paper-V: Pharmaceutical Inorganic Chemistry

Time : Three hours

Maximum Marks: 70

Answer any Five questions. All question carry equal marks.

1. What are errors? Classify them. Write a detailed note on determinate errors. Mention the methods used error management.
2. Write briefly on: 8+6
 - a) Indicators used in non-aqueous titrations.
 - b) Limit test for heavy metals
3. Write in detail on:
 - a) Medicinal gases
 - b) Antacids
4. Write the principle, procedure and applications of gravimetric analysis
5. Classify pharmaceutical aids with examples. Write in detail on adsorbants.
6. Write short note on: 2x7
 - a) Storage and handling of radio pharmaceuticals
 - b) Electrolyte replenishers
7. What are limit tests? Write their significance in pharmaceutical analysis. Write in detail on principle, procedure and importance of limit test for arsenic.
8. Write detail on: 2x7
 - a) Potassium permanganate
 - b) Calcium gluconate



Time : Three hours

Maximum Marks: 70

Answer any Five questions. All question carry equal marks.

1. (a) If $f(x) = \begin{bmatrix} \cos x & -\sin x & 0 \\ \sin x & \cos x & 0 \\ 0 & 0 & 1 \end{bmatrix}$ show that $F(x)F(y) = F(x+y)$
- (b) Find $A^2 - 5A + 6I$, If $A = \begin{bmatrix} 2 & 0 & 1 \\ 2 & 1 & 3 \\ 1 & -1 & 0 \end{bmatrix}$
2. (a) Find the point at which the tangent to the curve $y = \sqrt{4x-3} - 1$ has its slope $\frac{2}{3}$
- (b) Find the equation of the tangent and normal to the given curve $y = x^4 - 6x^3 + 13x^2 - 10x + 5$ at (0,5)
3. (a) Find the value of $\tan^{-1} \left[2\cos \left(2\sin^{-1} \frac{1}{2} \right) \right]$
- (b) Show that $\sin^{-1} \frac{3}{5} - \sin^{-1} \frac{8}{17} = \cos^{-1} \frac{84}{85}$
4. (a) Prove that $\int \cot x \, dx = \log |\sin x| + c$
- (b) Find the integration of $\frac{\sqrt{\tan x}}{\sin x \cos x}$
5. (a) Find the laplace transform of $t \cos^2 2t$
- (b) Find the laplace transform of $t \cosh xt$.
6. (a) Evaluate $\int \frac{(x-1)dx}{(x^2+x+1)}$
- (b) Evaluate $\int \frac{1}{(1+\sqrt{\tan x})} dx$
7. (a) Find the general solution of $x \log x \frac{dy}{dx} + y = \frac{2}{x} \log x$
- (b) Find the general solution of $y dx - (x + 2y^2) dy = 0$

PHD106B10

I Pharm. D (Regular/Supplementary) Examinations - August, 2019

(Regulation 2010-11)

(Examination at the end of First year of 6 Years Course)

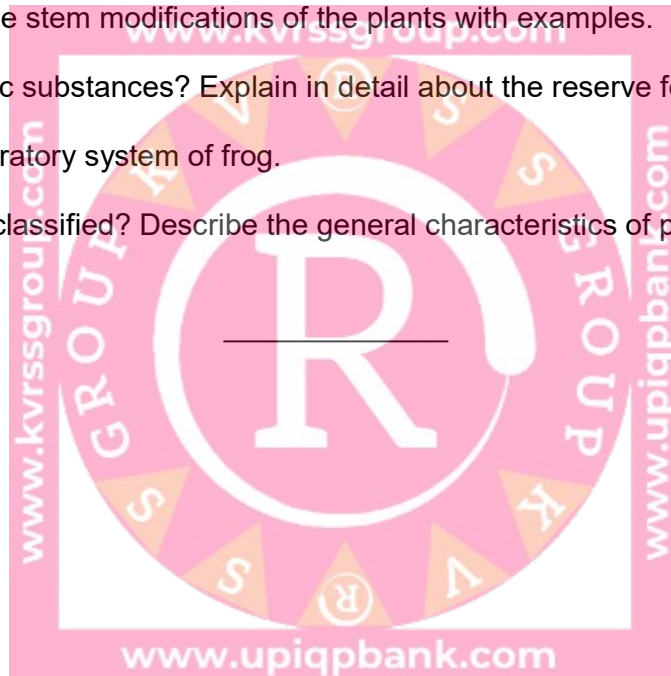
Paper-VIB: Remedial Biology

Time : Three hours

Maximum Marks: 70

Answer any Five questions. All question carry equal marks.

1. Define plant Taxonomy and discuss in detail morphological characters of Solanaceae.
2. Write a detail note on cardiovascular system of frog with neat labeled diagram.
3. Give an account on plant kingdom and its classification.
4. What are mammals? Write an account on animal kingdom with examples.
5. Discuss about the stem modifications of the plants with examples.
6. What are ergastic substances? Explain in detail about the reserve foods.
7. Explain the respiratory system of frog.
8. How pisces are classified? Describe the general characteristics of pisces.



1102

Pharm. D (Regular/Supplementary) Examinations - August, 2019

(Regulation 2012-13)

(Examination at the end of First year of 6 Years Course)

Paper:- Human Values and Professional Ethics

Time : One and half hour

Maximum Marks: 50

Answer all questions

1. Explain the need for value education in today scenario.
(or)
2. Explain the role of self exploration for value education.
3. Explain various types of human aspirations and their importance.
(or)
4. Write in detail about the programs to fulfil human aspirations.
5. What do you mean by harmony in self explain with examples.
(or)
6. Suggest some measures to achieve harmony in the society.
7. Explain the various basis for universal human values with examples.
(or)
8. Explain how professional ethics play a important role in right understanding.
9. Explain the various basis for universal human values with examples.
(or)
10. Explain in detail about various types of production systems.
