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**I Semester Examination – December 2016**

**BACHELOR of PHARMACY**

**Human Anatomy and Physiology**

**(BPH - 101)**

*Time : Three Hours* *Maximum Marks : 80*

*(Write your Roll No. at the top immediately on receipt of this question paper.)*

- *No student is allowed to leave the Hall before Two hours.*
- *Answer any FIVE questions.*
- *All question carry equal marks.*

1. Describe various modes of cell division. Explain the events of signal transmission at chemical synapses.

2. With the help of labelled diagram describe various events of neuromuscular transmission.

3. Write notes on any *two* :

   a) Structure and functions of eye

   b) Types of joints and their movement

   c) Transport across the cell membrane

P.T.O.

4. What are the effects of sympathetic and parasympathetic nervous systems on various effector organs ?

5. Write short notes on :

   a) Membrane proteins

   b) Glucocorticoids

   c) Location and functions of epithelial tissue

   d) Action potential

6. What are major parts of brain ? Describe the structure and functions of cerebrum.

7. Describe the structure and functions of pancreatic islets.

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# I Semester Examination – December 2016

## BACHELOR of PHARMACY
## Pharmaceutical Chemistry - III

## (Pharmaceutical Analysis - I)
## (BPH - 102)

*Time : Three Hours* *Maximum Marks : 80*

*(Write your Roll No. at the top immediately on receipt of this question paper.)*

- *No student is allowed to leave the Hall before Two hours.*
- *Answer any FIVE questions.*
- *All question carry equal marks.*

1. a) Differentiate between :

   i) Primary standard and Secondary standard. (2)

   ii) Precision and Accuracy. (2)

   b) Why do we add nitrobenzene in Volhard's method ? (2)

   c) Why starch is added as indicator towards end of titration. (2)

P.T.O.

d) Give the rules of governing calculation of significant figures. (2)

e) Why do we boil $KMnO_4$ solution before use. (2)

f) Enumerate different methods of expressing concentration. (2)

g) Differentiate between Iodometry and Iodimetry. (2)

2. a) Give neutralisation curves. Give in detail neutralisation curve of strong acid and strong base. (5)

b) Give a detailed account of Volhard's method. (6)

c) Dscribe post-precipitation. (5)

3. a) What are non-aqueous titrations. Give estimation of sodium benzoate in detail. (8)

b) What are metal ion indicators. (4)

c) Explain masking and demasking agents with example. (4)

4. a) Give principle and different steps involved in Gravimetric analysis. Give its applications. (8)

b) Explain co-precipitation. How to avoid co-precipitation ? (8)

5. a) What is Oxidation and Reduction ? Calculate the equivalent weight of $KMnO_4$ by ion-electron method. (8)

b) Give principle involved and assay procedure for Ferrous sulphate or iodine. (8)

6. a) Give detailed composition and working of Calomel electrode. (8)

b) Give the methods of determination of end point in potentiometric titrations. (8)

7. a) Give working of dropping mercury electrode. (5)

b) Describe Fajan's method in detail. (5)

c) Give applications of Analysis in Pharmacy. (6)

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# I Semester Examination – December 2016

## BACHELOR of PHARMACY

## Pharmaceutics - I
## (BPH - 103)

*Time : Three Hours* *Maximum Marks : 80*

*(Write your Roll No. at the top immediately on receipt of this question paper.)*

- *No student is allowed to leave the Hall before Two hours.*
- *Answer any FIVE questions.*
- *All question carry equal marks.*

1. a) Define Prescription. Draw a specimen prescription and explain the various parts of a prescription.

   b) Discuss possible errors in a prescription.

2. a) Discuss the various factors affecting the dose of a drug.

   b) Write a note on Imperial and Metric system.

3. Differentiate between :

   a) Lotions and Liniments

P.T.O.

b) Mouthwashes and Gargles

c) Syrups and Elixirs

d) Flocculated and Deflocculated Suspensions

4. Define Emulsions. Explain the various tests used for identification of emulsions. Discuss the methods used for preparation of emulsions.

5. a) Discuss the various factors influencing dermal penetration of drugs.

b) Write the tests used for evaluation of ointments and creams.

6. What is Incompatibility. Give classification of Pharmaceutical in compatabilities. Explain physical and chemical incompatibility with suitable examples.

7. **Write notes on any *two* :**

**a) Preparation and evaluation of suppositories.**

**b) Excipients used in the formulation of liquid dosage forms.**

**c) Preparation of effervescent powders and granules.**

**d) Classification of dosage forms.**

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**I Semester Examination – December 2016**

**BACHELOR of PHARMACY**
**Pharmaceutical Chemistry - I**

**(Pharmaceutical Inorganic Chemistry)**
**(BPH - 104)**

*Time : Three Hours* *Maximum Marks : 80*

*(Write your Roll No. at the top immediately on receipt of this question paper.)*

- *No student is allowed to leave the Hall before Two hours.*
- *Answer any FIVE questions.*
- *All question carry equal marks.*

1. a) Describe the various types of impurities present in pharmaceutical preparations. (3)

   b) What are the different sources of these impurities ? Give a brief account. (4)

   c) Write down the principle and chemistry of limit test of arsenic in pharmaceuticals. (5)

   d) What is the significance of Limit tests in pharmaceuticals ? (4)

P.T.O.

2. a) What are Astringents ? Write down the chemistry and application of any one astringent. (8)

b) What are Trace elements ? Discuss the role of any three trace elements in the preparation of pharmaceutical products. (8)

3. Write brief notes on the following (any *four*) : (4 × 4 = 16)

a) Pharmaceutical Aids

b) Desensitizers and Dentifrices

c) Oral Rehydration Solution (ORS)

d) Expectorants

e) Antidotes

4. Write down the assay and pharmaceutical applications of the following pharmaceutical preparations (any *two*) : (8 × 2 = 16)

a) Ammonium chloride

b) Calcium Gluconate

c) Sodium thiosulphate

d) Copper sulphate

5. a) What are the various types of radiations ? Give an account of radiopharmaceuticals with their applications. (8)

b) Write down the ideal properties of antacids. Describe the method of preparation, identification tests, assay and uses of sodium bicarbonate. (8)

6. a) What are Buffers ? Describe a system of buffer with suitable buffer equations. (8)

b) What are Antimicrobials ? Write down the method of preparation and assay of any one antimicrobial agent. (8)

7. a) What measures should be taken for the poisoning incidence ? Why vomiting should not be induced in case of acid poisoning ? (8)

b) What are Haematinics ? Write down the assay of ferrous sulphate. (8)

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**1st Semester Examination–December 2016**

**BACHELOR of PHARMACY**

**Communication Skills**

**(BPH - 105)**

*Time : Three Hours* *Maximum Marks : 80*

*(Write your Roll No. at the top immediately on receipt of this question paper.)*

- *No student is allowed to leave the Hall before Two hours.*
- *Answer any FIVE questions.*
- *All question carry equal marks.*

1. Describe the following: (4 × 4 = 16)
   a) Hearing and Listening.
   b) Barriers in communication
   c) Verbal and Non-verbal communication.
   d) Purpose of interview.

2. a) Describe the process of communication with suitable illustrations. (8)
   b) Discuss the importance of effective communication in social and corporate world. (8)

P.T.O.

3. a) Discuss the elements of communication. (8)

b) With the help of suitable examples describe the direct communication style and spirited communication style. (8)

4. a) Describe the various barriers to effective listening. (8)

b) How can we overcome those barriers ? (8)

5. a) What points must be borne in mind while attending a group discussion ? (8)

b) Discuss the elements of effective written communication. (8)

6. a) Define Interview. Discuss the Do's and Don'ts of an interview. (8)

b) Describe the techniques of delivering the presentations effectively. (8)

7. a) Suggest some strategies to make the communication effective. (8)

b) Discuss the basic listening skills. (8)

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# 1st Semester Examination–December 2016

## BACHELOR of PHARMACY

## Remedial Mathematics

## (BPH - 106)

*Time : Three Hours* *Maximum Marks : 40*

*(Write your Roll No. at the top immediately on receipt of this question paper.)*

- *No student is allowed to leave the Hall before Two hours*
- *Answer any FIVE questions*
- *All question carry equal marks*
- *Use of simple calculator allowed*



1. a) Evaluate $\lim_{x \to \frac{1}{2}} \frac{4x^2 - 1}{2x - 1}$ (4)

b) Differentiate the following w.r. to x (4)

i) $x^y = y^x$

ii) $y = \frac{e^x + e^{-x}}{e^x - e^{-x}}$

P.T.O.

2. Integrate the following: (8)

i) $\int \frac{e^x(1+x)}{\cos^2(xe^x)}dx$

ii) $\int \frac{1-\cos 2x}{1+\cos 2x}dx$

iii) $\int x^2 \sin x \ dx$

iv) $\int_0^{\frac{\pi}{2}} \tan^2 x \ dx$

3. a) Find the maxima and minima of the function (5)

$f(x) = 2x^3 - 9x^2 + 12x + 25$

b) find the IInd order derivative of $\frac{\log x}{x}$ (3)

4. a) Find the Laplace transform of $t^2 \cos at$. (4)

b) Solve the differential equations (4)

$(x+1)\frac{dy}{dx} = x(y^2+1)$

5. a) Find the inverse of the Matrix $A = \begin{bmatrix} 1 & 3 & 3 \\ 1 & 4 & 3 \\ 1 & 3 & 4 \end{bmatrix}$ (5)

b) Solve the following system of equations by Cramer's Rule : (3)

$$2x - y + 3z = 1$$
$$x + 2y - z = 2$$
$$5y - 5z = 3$$

6. a) Two judges in a beauty contest rank the 12 entries as: (5)

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| $x$: | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
| $y$: | 12 | 9 | 6 | 10 | 3 | 5 | 4 | 7 | 8 | 2 | 11 | 1 |

Determine whether the judges have same line of thinking ?

b) Write the properties of coefficient of correlation. (3)

7. a) Calculate arithmetic mean and standard deviation of the proteins intake of 400 families. (8)

| Protein intake / day (gm) | 15-25 | 25-35 | 35-45 | 45-55 | 55-65 | 65-75 | 75-85 |
|---|---|---|---|---|---|---|---|
| No of families | 30 | 40 | 100 | 110 | 80 | 30 | 10 |

8. a) Find the characteristic equation of the matrix (4)

$$\begin{bmatrix} 1 & 2 & -2 \\ 1 & 1 & 1 \\ 1 & 3 & -1 \end{bmatrix}$$

Hence find $A^{-1}$.

b) If $x = a(t - \sin t)$ and $y = a(1 - \cos t)$, prove that

$$\frac{d^2y}{dx^2} = \frac{-1}{a(1-\cos t)^2} \qquad (4)$$