15/6/2009. O/C A.N.

Code No. : 1001

FACULTY OF TECHNOLOGY

B. Pharmacy I Year (Main) Examination, June/July, 2009

ANATOMY, PHYSIOLOGY AND HEALTH EDUCATION

Time : 3 Hours] [Max. Marks : 70

Note : Answer **all** questions. **All** questions carry equal marks.

1. (a) (i) Discuss the structure and functions of different connective tissues. **(10)**

(ii) Describe the structure of neuron. **(4)**

OR

(b) (i) Write about the functional unit of muscle. **(7)**

(ii) Describe the active transport. **(7)**

2. (a) (i) Explain in detail various phases of cardiac cycle. **(7)**

(ii) Write the composition of blood and add a note on functions of R.B.C. **(7)**

OR

(b) (i) Discuss the general principles of Neurotransmission. **(10)**

(ii) Differentiate between parasympathetic and sympathetic nervous system. **(4)**

3. (a) (i) Explain the anatomy of respiratory system. **(8)**

(ii) Discuss the structure of small intestine. **(6)**

OR

(b) (i) Write about the physiology of digestion. **(10)**

(ii) Mention the functions of growth hormone. **(4)**

4. (a) (i) Write about tubular reabsorption. **(7)**

(ii) Discuss the structure of eye. **(7)**

OR

(b) (i) Define glomerular filtration rate and creatinine clearance. **(6)**

(ii) Write about the structure and functions of taste buds. **(8)**

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5. (a) (i) Write about deficiency diseases of vitamin-B complex. (10)

(ii) Define and mention causes of embolism. (4)

OR

(b) (i) Discuss the cellular changes during acute inflammation. (10)

(ii) Write about symptoms and causes of shock. (4)

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FACULTY OF TECHNOLOGY

B. Pharmacy I Year (Main) Examination, June/July, 2009

BIOLOGY

Time : 3 Hours] **[Max. Marks : 70**

Note : Answer **ALL** questions. **All** questions carry equal marks.

1. (a) (i) Discuss the types and functions of parenchyma. **(7)**

   (ii) Discuss underground stem modifications. **(7)**

   OR

   (b) (i) Write the structure of dicot root. **(7)**

   (ii) Discuss the structure and functions of xylem. **(7)**

2. (a) (i) Discuss the taxonomy of leguminosae. **(7)**

   (ii) Write about floral formula, floral diagram and economic importance of Rubiaceae. **(7)**

   OR

   (b) (i) Write about vegetative and floral characteristics of Apocynaceae. **(7)**

   (ii) Discuss vegetative characteristics, floral formula and floral diagram of Solanaceae. **(7)**

3. (a) Discuss about photosynthesis in plants. **(14)**

   OR

   (b) (i) Write about transcription. **(7)**

   (ii) Write about polyploidy and its significance. **(7)**

4. (a) (i) Describe the histology of liver. **(7)**

   (ii) List out the endocrine glands and mention their functions in rabbit. **(7)**

   OR

   (b) Discuss in detail types and functions of animal epithelial tissue. **(14)**

5. (a) Discuss the life cycle and diseases caused by tape worm. **(14)**

OR

(b) Discuss about diseases caused by

(i) Trypanosoma **(7)**

(ii) Anchylostoma **(7)**

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FACULTY OF TECHNOLOGY

B. Pharmacy I Year (Main) Examination, June/July, 2009

BASIC COMPUTER APPLICATIONS

Time : 3 Hours] **[Max. Marks : 70**

Note : Answer **all** questions. All questions carry equal marks.

1. (a) (i) Explain the basic concepts of flow charting and draw a flow chart to determine all the roots of a quadratic equation $ax^2 + bx + c = 0$

(ii) What is the necessary of an operating system ? Discuss the feature of any five MS-DOS commands.

OR

(b) (i) Describe the commonly used input and output devices of computers.

(ii) Discuss about commonly used printers.

2. (a) (i) Write a 'C' program to find the largest number from given set of 10 numbers.

(ii) Explain the following with examples :

(1) Arithmetic operators

(2) Expressions

(3) Arrays

OR

(b) (i) Write a 'C' program to find total and average marks of 60 students in a class considering the 5 subjects and each subject consisting of 100 marks.

(ii) Explain with examples the use of control statements like

(1) for

(2) IF.. ELSE

(3) While..do

3. (a) (i) Give an overview on tools available in MS-Word.

(ii) What is formatting ? Discuss about formatting paragraphs in MS-Word.

OR

(b) (i) Discuss about different types of data that can be entered in worksheet cells.

(ii) Write about different types of charts available in MS-Excel.

4. (a) (i) Write about transitions and animations feature of PowerPoint.

(ii) List and explain the types of views available in PowerPoint.

OR

(b) Briefly describe the following of MS-Access.

(i) Table relationships

(ii) Form controls

(iii) Queries

(iv) Sorting and Filtering

5. (a) (i) Explain what is a browser and how it is useful. Name at least three prominent browsers currently in use.

(ii) Discuss any one of the browser, including merits and demerits vis-a-vis the other browser.

OR

(b) Write a short note on the following :

(i) SQL server

(ii) E-mail

(iii) HTML

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FACULTY OF TECHNOLOGY

B. Pharmacy I Year (Main) Examination, June/July, 2009

PHARMACEUTICS – I (GENERAL & DISPENSING PHARMACY)

Time : 3 Hours] **[Max. Marks : 70**

Note : Answer **all** questions. **All** questions carry equal marks.

1. (a) (i) Describe the historical developments of American Pharmacy. **(8)**

(ii) Write a short note on British Pharmacopoeia. **(6)**

OR

(b) (i) Calculate the quantity of each ingredient required to prepare 1 ounce of the ointment. **(4)**

R

Benzoic acid – 6 parts

Salicylic acid – 3 parts

PEG ointment– 91 parts

(ii) Discuss in detail the various career opportunities available for pharmacists. **(6)**

(iii) Calculate the volume of 30% v/v and 60% v/v alcohol required to prepare 75% v/v alcohol of 120 ml. **(4)**

2 (a) (i) Discuss in detail about the parts of prescription. **(10)**

(ii) Write a short note on refilling of prescription. **(4)**

OR

(b) (i) Discuss in detail about dispensing of proprietary medicines. **(8)**

(ii) Define a dosage form. Classify dosage form and write about their advantage and limitations of dosage form. **(6)**

3. (a) (i) Discuss about the methods used to prepare syrups. **(8)**

(ii) Enumerate the differences of the following : **(6)**

(1) Lotion from liniments

(2) Syrups from Elixirs

OR

(b) (i) Write a short note on : **(3 × 4 = 12)**

(1) Lugol's solution
(2) Lysol
(3) Turpentine liniment
(4) Calamine lotion

(ii) What is the significance of HLB values ? **(2)**

4. (a) (i) Discuss the methods used to prepare ointments. **(10)**

(ii) Differentiate creams from jellies. **(4)**

OR

(b) (i) Describe the different types of alkaloidal incompatibilities with examples. **(10)**

(ii) Write a short note on Therapeutic incompatibility. **(4)**

5. (a) (i) Discuss in detail about handling and storage of medicinal gases. **(7)**

(ii) Discuss in detail about the preparation of Radio pharmaceuticals. **(7)**

OR

(b) (i) Explain the methods involved in the preparation of tinctures with suitable examples. **(8)**

(ii) Write a short note on therapeutic application of Radio pharmaceuticals. **(6)**

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FACULTY OF TECHNOLOGY

B. Pharmacy I Year (Main) Examination, June/July, 2009

PHARMACEUTICAL INORGANIC CHEMISTRY

Time : 3 Hours] **[Max. Marks : 70**

Note : Answer **all** questions. **All** questions carry equal marks.

1. (a) (i) Classify Inorganic Pharmaceuticals based on their therapeutic applications with examples. **8**

(ii) Explain the principle and procedure involved in the limit test for Heavy Metals. **6**

OR

(b) (i) Give two characteristic tests for Potassium and explain reactions. **5**

(ii) Explain the principle and procedure involved in the limit test for Sulphates. **6**

(iii) Define Limit Test. Write its significance. **3**

2. (a) (i) What are Laxatives ? Give the method of preparation, tests for purity and uses of Magnesium Sulphate and Sodium Phosphate. **8**

(ii) Write a brief note on Adsorbents. **6**

OR

(b) (i) Describe the importance of calcium in the body. Give the method of preparation and uses of Calcium Gluconate and Calcium Chloride. **2 + 4 + 4 = 10**

(ii) Write a brief note on Acidifiers. **4**

3. (a) (i) Write the preparation and uses of Ferrous gluconate and Ferric ammonium citrate. **8**

(ii) Write a brief note on Antioxidants. **6**

OR

(b) (i) Discuss the principle and procedure involved in the assay of Sodium Phosphate and Sodium Metabisulphite. **8**

(ii) Write properties and uses of Bentonite & Talc. **6**

4. (a) (i) What are emetics ? Give the preparation, and uses of Copper Sulphate and Zinc Sulphate. **8**

(ii) Write a brief note on Inhalants. **6**

OR

(b) (i) Write the preparation and uses of Potassium Iodide and Ammonium Chloride. **6**

(ii) Discuss the principle and procedure involved in the assay of Sodium Thiosulphate and Zinc Sulphate. **8**

5. (a) (i) What are antiinfectives ? Give the preparation and uses of Hydrogen Peroxide and Silver Nitrate. **8**

(ii) What are Diagnostic agents ? Discuss the properties, preparation and uses of Barium Sulphate. **6**

OR

(b) (i) Write a brief note on Topical protectants. **6**

(ii) Discuss the principle and procedure involved in the assay of Hydrogen Peroxide and Zinc Oxide. **8**

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FACULTY OF TECHNOLOGY

B. Pharmacy I Year (Main) Examination, June/July, 2009

MATHEMATICS

[Max. Marks : 70

Time : 3 Hours]

Note : Answer **all** questions. **All** questions carry equal marks.

1. (a) (i) The number of solutions of

$$\log_2 (x-1) = 2 \log_2 (x-3)$$

(ii) If $a = \sin\left(\frac{\pi}{4}\right)$, $b = \cos\left(\frac{\pi}{4}\right)$ and $c = -\operatorname{cosec}\left(\frac{\pi}{4}\right)$ then find the value of $a^3 + b^3 + c^3$

OR

(b) (i) In the Δ ABC, if $\cos\frac{A}{a} = \cos\frac{B}{b} = \cos\frac{C}{c}$ and the side a = 2, then find the area of triangle.

(ii) If A + B = 45°, then the value of (1 + tan A) (1 + tan B)

2. (a) (i) If $u = \log x + \log y$, prove that $x\frac{\partial u}{\partial x} + y\frac{\partial u}{\partial y} = 2$

(ii) Find $\frac{dy}{dx}$, where $y = \sin x$ using first principle.

(iii) Investigate the maxima and minima of

$$y = (x-2)^6 (x-3)^5$$

OR

(b) (i) Prove that $x^3 - 3x^2 + 3x + 7$, has neither maxima nor minima.

(ii) If $u = (1 - 2xy + y^2)^{-\frac{1}{2}}$, then show that $x\frac{\partial u}{\partial x} - y\frac{\partial u}{\partial y} = y^2u^3$.

3. (a) (i) Find the area included between $y^2 = 4x$ and $y = 2x$.

(ii) Evaluate $\int \frac{x\,e^x}{(1+x)^2}\,dx$

(iii) Evaluate $\int \frac{dx}{4 + 5\sin x}$

OR

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(b) (i) Evaluate $\int \frac{x^2 + 5x + 41}{(x+3)(x-1)(2x-1)} dx$

(ii) Evaluate $\int x^3 \sin x \, dx$

(iii) Evaluate $\int \frac{dx}{3 \sin x + 4 \cos x}$

4. (a) (i) Define Rank of matrix. Find the rank of the matrix.

$$A = \begin{bmatrix} 1 & 2 & 3 \\ 2 & 4 & 6 \\ 4 & 8 & 12 \end{bmatrix}$$

(ii) If $A = \begin{bmatrix} 3 & -3 & 4 \\ 2 & -3 & 4 \\ 0 & -1 & 1 \end{bmatrix}$ (1) find A^{-1} (2) Prove that $A^3 = A^{-1}$

OR

(b) (i) State the following system of equations by Gauss-elimination method.

$x - 3y - 8z = 5$, $3x + y + 3 = 5$, $2x + 3y + 6z = 12$

(ii) If $A = \begin{bmatrix} 1 & 1 & 2 \\ 1 & 9 & 3 \\ 1 & 4 & 2 \end{bmatrix}$ and $B = \begin{bmatrix} 1 & 2 & 0 \\ 2 & 3 & -1 \\ 1 & -1 & 3 \end{bmatrix}$.

Is $(AB)^{-1} = B^{-1}A^{-1}$?

5. (a) (i) Define Boolean algebra. Discuss the set of postulates defining Boolean algebra.

(ii) Procure that $ax + by + cz + d = 0$ represents a plane.

OR

(b) (i) Express the following functions in their sum of products form :

(1) $\bar{A} \cdot (B + \bar{C})$

(2) $(\bar{A} + B) \cdot (\bar{B} + \bar{C})$.

(ii) Write Boolean function to realize the full adder and draw the corresponding logic diagram.
