FACULTY OF PHARMACY

B. Pharmacy   I – Year (Supplementary) Examination, November 2013

Subject : Pharmaceutical Inorganic Chemistry

Time : 3 hours   Max. Marks : 70

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

1.a) Classify inorganic pharmaceuticals based on their therapeutic applications with examples.   8

  b) Give two characteristic tests for any two anions and two cations and explain with reactions.   6

OR

  c) Write in detail on sources of impurities in pharmaceuticals.   7

  d) Explain the principle and procedure in the limit test for   i) chlorides   ii) Iron   3+4

2.a) List out the official magnesium compounds used as antacids. Explain the method of preparation of milk of magnesia.   5

  b) Discuss the chemistry, properties and applications of light and heavy kaolins.   6

  c) Write a note on Haemodialysis fluids.   3

OR

  d) Describe the importance of sodium in the body. Write preparation, properties uses of   i) Sodium chloride   ii) Sodium acetate   7

  c) What are Laxatives? Write preparation, properties of any two official laxatives.   7

3.a) What are haematinics? Write preparation, properties and assay of Ferrous sulphate.   8

  b) Write a note on   i) Purified water   ii) Colorants   6

OR

  c) Write preparation, properties and uses of
    i) Sodium metabisulphite   ii) Activated charcoal   iii) Zinc chloride   9

  d) Write a note on excipients.   5

4.a) What are antidotes? Write preparation, properties uses of
    i) Sodium thiosulphate   ii) Sodium nitrite   8

  b) Write a note on expectorants.   6

OR

  c) Write preparation, properties and uses of
    i) Zinc sulphate   ii) Copper sulphate   8

  d) Write a note on inhalants.   6

5.a) Explain the principle and procedure in the assay of
    i) Hydrogen peroxide   ii) Silver nitrate   8

  b) Write the composition, properties and applications of
    i) Ammoniated mercury   ii) Activated Dimethicone   6

OR

  c) Indicate one official inorganic compound used as
    i) Antineoplastic agent   ii) Diagnostic agent   iii) Antidepressant agent.
    Describe briefly their uses and properties.   9

  d) Write preparation, properties and uses of
    i) Stannous fluoride   ii) Calcium carbonate   5

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FACULTY OF PHARMACY

B. Pharmacy I Year (Suppl.) Examination, November 2013

Subject: Pharmaceutics – I (General and Dispensing Pharmacy)

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

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

1.(a)   i)   Explain the development of Pharmaceutical Education in India. (8)
      ii)   Calculate the dose for 10 year child and 9 months old infant of SMZ
         (adult dose = 650 mg). (3)
      iii)   How do you prepare 250 ml of 35% v/v alcohol from 40% v/v and
         15% v/v alcohol? (3)

OR

  (b)   i)   What is pharmacopocia? Write the contents and uses of I.P. (8)
      ii)   How do you prepare 1500 ml of 3% w/v sodium chloride solution? (2)
      iii)   Inter convert 35° UP and 42° OP into % v/v and 36% v/v and 87% v/v into
         degrees of proof. (4)

2.(a)   i)   Define prescription. Explain the contents of prescription with example. (7)
      ii)   Discuss about different types of containers and closures used in liquid dosage
         forms. (7)

OR

  (b)   i)   Explain the steps involved in dispensing of a prescription. (8)
      ii)   Write a note on reasons for errors in dispensing of a prescription. (6)

3.(a)   i)   What are different methods of preparation of aromatic waters. (7)
      ii)   Write the principle and procedure involved in the preparation of simple syrup. (7)

OR

  (b)   i)   Classify emulsifying agents with examples. (6)
      ii)   How do you prepare Tannic acid glycerin and calamine lotion? (4x2)

4.(a)   i)   Discuss about any two ointment bases with its merits and demerits. (8)
      ii)   Write a note on tablet triturates. (3)
      iii)   Calculate the formula for preparation of 10 zinc oxide suppositories each
         containing 500 mg of ZnO using 1 gm molds. (Displacement value of ZnO = 5). (3)

OR

  (b)   i)   Explain about physical incompatibilities with examples. (8)
      ii)   Mention the type of incompatibility and write the method to overcome in the
         following : (6)
         Rx

           Quinine So_4 -   2 gm
           Hydrochloric acid   -   5 ml
           KI   -   1 gm
           Water upto   -   50 ml

5.(a)   i)   Describe the soxhalation process of extraction with a neat sketch. (8)
      ii)   Discuss the method of preparation of radio pharmaceuticals. (6)

OR

  (b)   i)   List out official medical gases along with its storage and uses. (7)
      ii)   Write a note on tinctures. (7)

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FACULTY OF PHARMACY

B. Pharmacy I Year (Suppl.) Examination, November 2013

Subject: Mathematics

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

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

1.(a) Prove that $\dfrac{1}{1+\log_a bc} + \dfrac{1}{1+\log_b ca} + \dfrac{1}{1+\log_c ab} = 1$.

(b) If $\sin\alpha = \dfrac{1}{\sqrt{10}}$; $\sin\beta = \dfrac{1}{\sqrt{5}}$ and α, β are acute angles then show that $\alpha+\beta = \dfrac{\lambda}{4}$.

OR

(c) Find the value of xyz if $\dfrac{\log x}{y-z} = \dfrac{\log y}{z-x} = \dfrac{\log z}{x-y}$.

(d) Prove that $\dfrac{1}{\cos 290^\circ} + \dfrac{1}{\sqrt{3}.\sin 250^\circ} = \dfrac{4}{\sqrt{3}}$.

2.(a) Find the maximum and minimum values of $f(x) = x^3 + \dfrac{3}{x}$.

(b) If $xy = ae^x + bc^{-x}$ then prove that $xy'' + 2y' - xy = 0$.

OR

(c) If $z = \log\left(\dfrac{x^2+y^2}{xy}\right)$, verify that $\dfrac{\partial^2 z}{\partial x \partial y} = \dfrac{\partial^2 z}{\partial y \partial x}$.

(d) Prove that $x^3 - 3x^2 + 3x + 7$ has neither maximum nor minima.

3.(a) Evaluate $\int \sqrt{\dfrac{x}{1+x^3}}\,dx$

(b) Evaluate $\int \dfrac{x\sin^{-1}x}{\sqrt{1-x^2}}\,dx$.

OR

(c) Evaluate $\int \dfrac{\sin x \cos x}{1+\sin^4 x}\,dx$

(d) Evaluate $\int \dfrac{x^2+2x+5}{(x+2)(x-1)(3x-1)}\,dx$.

4.(a) Define rank of a matrix and hence find the rank of the matrix $A = \begin{bmatrix} 1 & 2 & 3 & 4 \\ 2 & 4 & 6 & 8 \\ 2 & 3 & 4 & 5 \\ 3 & 4 & 5 & 6 \end{bmatrix}$.

(b) Solve the system of equations. $2x-y+8z=13$; $3x+4y+5z = 18$ and $5x-2y+7z = 20$ by matrix inversion method.

OR

4.(c) Solve the system of equations $x+2y+3z = 4$; $2x+3y+5z = 5$; $3x+4y+6z = 12$ by Gaussian elimination method.

(d) If $A = \begin{bmatrix} 1 & 2 & 3 \\ 3 & 4 & 2 \\ 3 & 4 & 5 \end{bmatrix}$ and $B = \begin{bmatrix} 1 & 2 & 0 \\ 2 & 3 & 2 \\ 1 & -1 & 2 \end{bmatrix}$ then find $(AB)^{-1}$.

5.(a) Define linear and non-linear graphs with an example.

(b) Find foci, latus rectum eccentricity, from $y^2+2y+3x+4 = 0$.

OR

(c) Derive the equation $y = mx + c$ and explain the importance m and c.

(d) Find the radius and centre of the circle $x^2+y^2-4x+6y+4 = 0$.

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FACULTY OF PHARMACY

B. Pharmacy I Year (Suppl.) Examination, November 2013

Subject: Biology

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

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

1.(a) i) Describe the morphology and histology of monocot root with neat labelled diagram. (7)

ii) Write different types of plant tissues and their functions. (7)

OR

(b) i) Define inflorescence? Explain the different types of cymose inflorescence. (7)

ii) Draw the structure of dicotyledonous seeds and label its parts. (7)

2.(a) i) Describe the vegetative and floral characteristics of apocyanaceae. (7)

ii) Write a note on economic importance of scrophulariaceae. (7)

OR

(b) i) Describe the distinguishing characteristics of umbelliferae family. (8)

ii) Write the characteristics, floral formula, floral diagram of leguminaceae. (6)

3.(a) Explain the process of transpiration taking place in plants. (14)

OR

(b) i) Write a note on gene mutations. (7)

ii) Explain the process of absorption taking place in plants. (7)

4.(a) i) Discuss the histology of rabbit liver. (7)

ii) Draw a neat labelled diagram of nervous system of frog. (7)

OR

(b) i) Explain the differences between plant cell and animal cells. (7)

ii) Describe the histology of smooth muscles of rabbit. (7)

5.(a) Describe the life history of *Trypanosoma* and the diseases spread by it. (14)

OR

(b) i) Give the life history of *Ancylostoma.* (8)

ii) Give the morphology and life cycle of *Leishmania*. (6)

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FACULTY OF PHARMACY

B. Pharmacy I-Year   (Supplementary) Examination, November 2013

Subject : Basic Computer Applications

Time : 3 hours   **Max. Marks : 70**

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

1.a) Describe the basic structure of computer? Explain the components of computer?

  b) What are the symbols used to draw the flowchart? Draw flow chart to find the given number is even or odd?

OR

  c) What is operating system? Explain any five DOS commands.

  d) What is virus? How virus will affect the computer and how can we protect computer from viruses?

2.a) Explain with examples the use of control statements like
      i) IF – ELSE   ii) WHILE – DO

  b) Write a program to find the given number is prime or not.

OR

  c) Explain the different types of data types available in C – Language.

3.a) Discuss i) Mail merge   ii) Tables   iii) Spellings and Grammar in MS-Word.

OR

  c) Write about the important features of MS-Excel.

  d) Write the basic formatting of spread sheet using MS-Excel.

4.a) Write the features of MS-Power Point? Explain basics of power point.

  b) Discuss about i) Custom animation   ii) Views in MS-Power Point.

OR

  c) Explain about i) Import and exporting   ii) Sorting and filtering
                      iii) Linking data   iv) Query of data

5.a) Explain the following :
      i) Pharmaceutical resources in WWW   ii) Internet
     iii) E-Mail   iv) Internet browsers

OR

  b) Write about SQL commands.

  c) Write about different types of indexing tools and search strategies.

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FACULTY OF PHARMACY

B. Pharmacy I Year (Main & Backlog) Examination, June 2013
Subject: 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 properties and functions of osteous tissue. (8)

     ii) Write a note on membrane permeability. (6)

OR

(b) Explain the various parts of the following bones with neat diagrams (14)

     (A) Coccyx   (B) Thoracic   (C) Humerus   (D) Carpels

2.(a) i) What is a neuron? Explain the physiology of nerve impulse conduction. (8)

     ii) Explain the composition and function of blood. (6)

OR

(b) i) Explain the various parts and functions of central nervous system. (8)

     ii) Define cardiac cycle. Explain the various events in a cardiac cycle. (6)

3.(a) i) Explain the gross anatomy of respiratory passages. (6)

     ii) Explain the disorders of hypo and hyper secretion of (i) pituitary gland (ii) thyroid gland. (8)

OR

(b) i) Discuss the physiology of alimentary canal with regard to gastric secretions and enzymes involved in digestion. (8)

     ii) Explain the terms (i) respiratory volume (ii) vital capacity (iii) anoxia. (6)

4.(a) i) Explain the various parts, structure and functions of the kidney. (10)

     ii) Draw a neat labelled diagram of eye. (4)

OR

(b) i) Explain the physiology of hearing. (8)

     ii) Discuss the physiology of urine formation. (6)

5.(a) i) Discuss the various procedures for family planning. (8)

     ii) Explain the terms (A) Haemorrhage   (B) Neoplasms   (C) Thrombosis (6)

OR

(b) i) Write on nutritional disorders associated with vitamin deficiency. (6)

     ii) Discuss the pathological processes of inflammation and repair. (8)

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FACULTY OF PHARMACY

B. Pharmacy I Year (Main) Examination, June 2013

Subject: Pharmaceutical Inorganic Chemistry

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

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

1.(a) Define limit test and give its significance. (3)
 (b) Give two characteristic tests for calcium and explain reactions. (4)
 (c) Write the principle and procedure involved in the limit test for (i) sulphates
     (ii) heavy metals. (3+4)

OR

 (d) With a neat labelled diagram explain the principle and procedure involved in the limit
     test for arsenic. (8)
 (e) Explain the importance of the following pharmacopoeial tests with suitable
     examples: (i) Loss on drying (ii) Loss on ignition. (6)

2.(a) List out the official preparations of sodium chloride. Write the composition of Ringer's
     solution. Discuss the principle and procedure involved in the assay of sodium
     chloride. (2+2+4)
 (b) Write a brief note on adsorbents. (6)

OR

 (c) Write preparation, properties of any two official calcium replenishers. (5)
 (d) What are antacids? Write preparation and properties of (i) Magnesium trisilicate
     (ii) Aluminium hydroxide gel. (6)
 (e) Write a note on intraperitoneal dialysis fluids. (3)

3.(a) What are antioxidants? Write preparation and properties of any two official
     antioxidants. (7)
 (b) List out official iron compounds used as haematinics. Write preparation and
     proprties of ferric ammonium citrate. (7)

OR

 (c) Give a brief account of the chemistry, properties and applications of (i) Bentonite
     (ii) Magnesium stearate. (7)
 (d) Write preparation, properties and uses of (i) Zinc chloride (ii) Sodium acid
     phosphate. (7)

4.(a) What are emetics? Write preparation and properties of (i) Copper sulphate (ii)
     Potassium antimony tartarate. (7)
 (b) Write a note on inhalants. (7)

OR

 (c) What are expectorants? Write preparation and properties of (i) Potassium iodide
     (ii) Ammonium chloride (8)
 (d) Write a note on the treatment of cyanide poisoning. (6)

5.(a) What are antinfectives? Write preparation, properties and uses of (i) Potassium
     permanganate (ii) Yellow mercuric oxide. (8)
 (b) Write a note on anticaries agents. (6)

OR

 (c) Write the chemistry, preparation, properties and uses of (i) Plaster of Paris (ii)
     Barium sulphate. (8)
 (d) Write principle and procedure involved in the assay of (i) Zinc oxide (ii) Hydrogen
     peroxide. (6)

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FACULTY OF PHARMACY

B. Pharmacy I Year (Main) Examination, June 2013

Subject: Pharmaceutics – I (General and Dispensing Pharmacy)

Time: 3 Hours   Max.Marks: 70

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

1.(a) Discuss about the development of pharmaceutical education in India.   (7)
  (b) Write a note on Indian Pharmacopoeia.   (7)
                                              OR
  (c) Convert the following:
       i) 30° OP and 80° UP to percentage volume / volume.   (10)
       ii) Prepare 600 ml of 60% alcohol from 95% alcohol
  (d) Send 250 ml of 4% potassium permanganate solution and label with directions
       for preparing 1 litre quantity of a 1 in 2500 solution.   (4)

2.(a) Discuss the sources of errors which occur during handling and dispensing of
       prescription and add a note on rectification.   (7)
  (b) Write a note on various additives used in dispensing products.   (7)
                                              OR
  (c) Define the following dosage forms   (14)
       i) Mixtures   ii) Douches   iii) Pessaries   (iv) Effervescent granules
       v) Inhalations   vi) Gargles   vii) Spirits

3.(a) Write in detail about the methods for preparation of emulsions.   (10)
  (b) Discuss about the identification tests for determination of type of emulsions.   (4)
                                              OR
  (c) Write the principle and procedure of the following preparations: (6)
       i) Calamine lotion   ii) Milk of magnesia
  (d) Discuss about the following instability terms of emulsions.   (2+3+3)
       i) Creaming   ii) Cracking   iii) Phase inversion

4.(a) Discuss about the different bases used in the preparation of suppositories.   (10)
  (b) Identify the type of incompatibility in the following prescription and add a note on
       how to overcome.   (4)
       Rx
         Menthol   -   5 g, Camphor   -   5 g, Thymol   -   5 g
       make an insufflation powder.
                                              OR
  (c) Discuss about the types of jellies and their preparation with an example.   (6)
  (d) Write about the preparation of the following:
       i) Camphor liniment   ii) Simple ointment   iii) Cold cream   (2+3+3)

5.(a) Discuss in detail about preparation, therapeutic and diagnostic uses of any two
       radio pharmacoceuticals.   (14)
                                              OR
  (b) Write about the official medicinal gases and their uses.   (7)
  (c) Discuss about the official tinctures and their preparations for atleast one.   (7)

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FACULTY OF PHARMACY

B. Pharmacy I Year (Main & Backlog) Examination, June 2013

Subject: Mathematics

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

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

1.(a)   i)   If $(x-y)\log_a 2 = (y-z)\log_b 2 = (z-x)\log_c 2$, then show that $abc = 1$.

     ii)   If $\tan 20^\circ = \lambda$, show that $\dfrac{\tan 250^\circ + \tan 340^\circ}{\tan 200^\circ - \tan 110^\circ} = \dfrac{1-\lambda^2}{1+\lambda^2}$.

OR

(b)   i)   If $a^x = b^y = c^z$ and $y^2 = xz$ then show that $\log_b a = \log_c b$.

     ii)   find the value of $\cos 5^\circ + \cos 24^\circ + \cos 175^\circ + \cos 204^\circ + \cos 300^\circ$.

2.(a)   i)   Find the derivative of the function $f(x) = \dfrac{x^3 + 1}{(x^2 - 1)(x^3 - 1)}$.

     ii)   If $f(x) = x\sin(1/x)$ when $x \neq 0$ and $f(0) = 0$, show that f is continuous but not derivable for $x = 0$.

OR

(b)   i)   Find the maximum and minimum values of the polynomial function f is given by $f(x) = 8x^5 - 15x^4 + 10x^3$.

     ii)   if $u = \tan^{-1}(y/x)$, then show that $\dfrac{\partial^2 y}{\partial x^2} + \dfrac{\partial^2 y}{\partial y^2} = 0$.

3.(a)   i)   Evaluate $\displaystyle\int \dfrac{\cos x}{a + b\sin x}\,dx$.

     ii)   Evaluate $\displaystyle\int \dfrac{3x + 7}{3x^2 + 14x - 5}\,dx$.

OR

(b)   i)   Evaluate $\displaystyle\int \dfrac{\tan x}{1 + \cos^2 x}\,dx$

     ii)   Evaluate $\displaystyle\int \dfrac{\cos 4x + 1}{\cos x - \tan x}\,dx$.

4.(a)   i)   Define symmetric and skew symmetric matrix.

        If $A = \begin{bmatrix} 1 & -2 & 3 \\ 2 & 3 & -1 \\ -3 & 1 & 2 \end{bmatrix}$ and $B = \begin{bmatrix} 1 & 0 & 2 \\ 0 & 1 & 2 \\ 1 & 2 & 0 \end{bmatrix}$, find BA.

     ii)   Define determinant of a matrix. Find A^{-1} if $A = \begin{bmatrix} 2 & 0 & 3 \\ 6 & 2 & 1 \\ 3 & 1 & 4 \end{bmatrix}$.

OR

4.(b) i) Write the following equation in matrix form AX = B and solve for X by finding A^{-1}.
        The equations are x+y-2z = 3; 2x-y+z = 0; 3x+y-z = 8.

    ii) Solve the system of equations x+2y+3z = 14; 4x+5y+7z = 35; 3x+3y+4z = 21 by
        using the Gauss-elimination method.

5.(a) i) Derive the equation y = mx+c for a straight line and explain the importance of
        m and c and how to determine the value of m.

    ii) Find Latus sectum, eccentricity from the equation $x^2+y^2-4x+4 = 0$.

OR

  (b) i) Find the centre and radius of the circle $3x^2+3y^2+6x-12y-1 = 0$.

    ii) Explain about linear and non-linear graphs and their importance in biological data
        representation and comparison.

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FACULTY OF PHARMACY

B. Pharmacy I Year (Main & Backlog) Examination, June 2013

Subject: Biology

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

Note: Answer all questions. All questions carry equal marks.
Draw neat and labelled diagrams wherever necessary.

1.(a) i) Describe the structure and functions of plant cell.   (7)

      ii) Describe the various roots modified for physiological function.   (7)

<div align="center">OR</div>

 (b) i) Discuss the types of simple dry fruit.   (7)

      ii) Define inflorescence. Discuss various types of cymose inflorescence.   (7)

2.(a) i) Describe the vegetative and floral characteristics of Apocynaceae.   (8)

      ii) Write a note on economic importance of leguminosae and solanaceae.   (6)

<div align="center">OR</div>

 (b) i) Classify coriandrum sativam in its family based on vegetative and floral

      characters.   (8)

      ii) Write the botanical names of three medicinally important plants from each of

      Rubiaceae and Apocynaceae families.   (6)

3.(a) Describe photosynthesis in plants.   (14)

<div align="center">OR</div>

 (b) i) Describe transcription.   (7)

      ii) Write a note on polyploidy.   (7)

4.(a) i) Describe Mitosis-cell division in animals.   (6)

      ii) Define tissue. Discuss the epithelial and muscular tissue.   (8)

<div align="center">OR</div>

 (b) i) Draw neat and labelled diagram of internal structure of heart of frog. Write a note

      on its function.   (7)

      ii) Discuss the histology of Rabbit pancreas.   (7)

5.(a) i) Describe the life-cycle and pathogenecity of entamoeba.   (7)

      ii) Describe the life-history of mosquito.   (7)

<div align="center">OR</div>

 (b) i) Describe the life-history and pathogenecity of Ascaris.   (7)

      ii) Discuss the role of housefly as agent for spreading diseases.   (7)

<div align="center">****</div>

FACULTY OF PHARMACY

B. Pharmacy I Year (Main) Examination, June 2013

Subject: Basic Computer Applications

Time: 3 Hours   Max.Marks: 70

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

1.(a) List out the commonly used input and output devices of computer. Write about input devices.

   (b) Write the principles of flow charting. List commonly used symbols in flow charts.

OR

   (c) Explain different types of printers.

   (d) What is operating system? Discuss briefly about the windows operating system.

2.(a) Describe about different control statements in C-Language with example.

OR

   (b) Explain data input and output statements in C-Language.

   (c) Explain types of loops in C-language and give examples.

3.(a) Discuss about creating, editing and formatting document in MS-Word.

   (b) Write about macro and mail merge in MS-Word.

OR

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

   (d) Write about mathematical and statistical functions in MS-Excel.

4.(a) Write about transitions and animations in MS-Power point.

   (b) What are the different views available in MS-Power point? Explain them.

OR

   (c) What is database? Write about different data types available in MS-Access to enter data.

   (d) Explain about the creating table in MS-Access.

5.(a) Explain the following:

   1) Search engine 2) HTML 3) E-Mail 4) Structure and organization of WWW.

OR

   (b) Write the features of SQL. Write about SQL commands.

   (c) Write about chemical database design and their tools.

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