

S.R. FATEPURIA COLLEGE

Beldanga, Murshidabad

Semester-IV

Internal assessment Examination-2020 (BLENDED MODE)

Course Name: CHEMHT-8

(Physical-III)

F.M. - 10

Time- 1 Hour

The figures in the right-hand margin indicate marks. Candidates are required to give their answers in their own words as far as practicable.

Physical-III

Answer the following questions:

1. Draw the phase diagram of H₂O and calculate the degree of freedom at triple point? **3**
2. Derive the relation between elevation of boiling point (ΔT_b) of dilute a solution with molal concentration of the solution (C_m). **3**
3. State phase rule and derive it thermodynamically? **2**
4. What do you mean by Eutectic mixture? Illustrate with a simple phase diagram. **2**

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Course Name: CHEMHT-9

(Inorganic-III)

F.M. - 10

Time- 1 Hour

The figures in the right-hand margin indicate marks. Candidates are required to give their answers in their own words as far as practicable.

Inorganic-III

Answer the following questions:

1. How n/p ratio affect nuclear stability? Explain with serge chart. **2**
2. Explain the term packing fraction and mass defect. How mass defect related with nuclear binding energy? **3**
3. The isotopic mass of two atom ${}_{26}\text{X}^{56}$ and ${}_{57}\text{Y}^{137}$ are 55.952144 u and 138.9621461 u respectively. Compare their nuclear stability? Given $m_p = 1.0072765$ u, $m_n = 1.0086650$ u, $m_e = 0.0005486$ u. **3**
4. The C^{14} to C^{12} ratio in a piece of old wood is 20% to that of atmosphere. Calculate the age of wood? ($t_{0.5}$ of C^{14} is 5730 years) **2**

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Course Name: CHEMHT-10

(Organic-IV)

F.M. - 10

Time- 1 Hour

The figures in the right-hand margin indicate marks. Candidates are required to give their answers in their own words as far as practicable.

Organic-IV

Answer the following questions:

1. Write short notes on following reactions: **5**
 - (i) Mannich Reaction
 - (ii) Nef carbonyl synthesis
 - (iii) Henry reaction
 - (iv) Fries rearrangement
 - (v) Bayer-villiger oxidation
2. Diazoacetic ester is more stable than diazomethane. Explain **2**
3. How do you distinguish and separate 1⁰, 2⁰ and 3⁰ amines by Hinesburg method? **3**

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Internal assessment Examination-2020 (BLENDED MODE)

Course Name: CHEMHS-2A

(Pharmaceutical Chemistry)

F.M. - 10

Time- 1 Hour

The figures in the right-hand margin indicate marks. Candidates are required to give their answers in their own words as far as practicable.

Inorganic-III

Answer the following questions:

1. What is drug discovery and development? **1**
2. What is mean by analgesic drugs? **1**
3. What is the main objective of rational drug design? **1**
4. What is paracetamol used for? What is its chemical name? Write down its structure.
Write down the synthetic procedure of paracetamol. What are the side effects of paracetamol? **3**
5. What is ibuprofen used for? What is its chemical name? Write down its structure. Write down the synthetic procedure of ibuprofen. What are the side effects of ibuprofen? **4**