

**Sukanta Mahavidyalaya**  
**2<sup>nd</sup> semester practical examination ,2020**

**Sub : Organic chemistry (hons)**

Time : 2Hrs

Paper : CC3

F.M. 20

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|---|------------|
| 1. Answer the following questions ( <b>Any three</b> )                        | [3×5 = 15] |
| a) Describe the theory of papre chromatography?                               | 5          |
| b) What is R <sub>f</sub> value and what we know from it?                     | 5          |
| c) i) What is difference between evaporation and distilation?                 | [2+3]      |
| ii) Which eluent is use for paper chromatography?                             |            |
| d) i) What is melting point and boiling point of a compound?                  | [2+3]      |
| ii) What is the effect of impurities in boiling point of of organic compound? |            |
| e) i) What is eluent and elution chember?                                     | [2+3]      |
| ii) What is mobile phase and stationary phase?                                |            |
| 2. Laboratory Note Book.  | 3          |
| 3. Performance in class.  | 2          |

# SukantaMahavidyalaya

2<sup>nd</sup> semester practical examination,2020

Sub : Physical Chemistry (hons)

Time : 2Hrs

Paper : CC 4

F.M. 20

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1. Answer the following questions (**Any three**)[3×5 = 15]

- a) i. How can you determine the relative Surface tension of liquid. Explain with Mathematical principle . 2.5  
ii) What is surface tension and its Unit ? 2.5
- b) i) How can you Determine the relative Viscosity of liquid. Explain mathematical principle 2.5  
ii) What is viscosity Co-efficient and its unit ? 2.5
- c) i) Highly Viscous liquid is less volatile .Explain ?  
ii)How viscosity Co-efficient and surface tension of liquid vary with temperature. Explain it with Graphical plots? [2+3]
- d) i)Heat of neutralization is constant irrespective of the strong acid or strong base used. explain? [2.5]  
ii) How can you determine heat capacity of calorimeter .Explain with mathematical principle [2.5]
- e) i) Define heat of neutralisation and heat of ionisation with suitable example. [3]  
ii) The heat of neutralisation of HCN (aq) is 3000 cal at 25 °C by a strong base. What is heat of dissociation of HCN? [2]
2. Laboratory Note Book. 3
3. Performance in class. 2

# Sukanta Mahavidyalaya

2<sup>nd</sup> Semester Practical Examination, 2020

Subject: Chemistry (DSC/GE)

Time: 2 Hrs.

F.M. 20

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| 1. Answer the following questions ( <b>Any three</b> ):                              | 3 X 5 = 15  |
| a) i) What do you mean by viscosity of a solution?                                   |             |
| ii) What is the unit of viscosity?   |             |
| iii) What is the effect of temperature on viscosity of liquids?                      | [2 + 1 + 2] |
| b) i) What is the unit and dimension of surface tension?                             |             |
| ii) What apparatus is used for measurement of surface tension?                       |             |
| iii) Define Surface tension.   | [2 + 1 + 2] |
| c) i) Define buffer capacity.  |             |
| ii) Write down the Henderson's equation for acid buffer.                             |             |
| iii) Give an example of each for acid buffer and basic buffer.                       |             |
| d) i) Write down the structural formula of 2,4-DNP.                                  | [2 + 1 + 2] |
| ii) Describe the procedure for the preparation of 2,4-DNP derivative of an aldehyde. | [1 + 4]     |
| e) i) What does a positive 2,4-DNP test indicate?                                    |             |
| ii) Can a 2,4-DNP test distinguish between an aldehyde and a ketone?                 |             |
| iii) How do you prepare a 2,4-DNP solution?  | [1 + 1 + 3] |
| 2. Laboratory Note Book.   | [3]         |
| 3. Performance in Class.   | [2]         |

# Sukanta Mahavidyalaya

4<sup>th</sup> semester Practical Examination, 2020

Subject: Chemistry C VIII

Time – 2hrs

F.M -20

1. Answer the following questions (**Any Three**)

A. i) Write down the structure, Co ordination number of Copper in tetra ammine copper(II) Sulphate and mention the hybridisation of  $Cu^{2+}$  ion in it.

ii) Write down the chemical reactions involving in the preparation of tetra ammine copper (II) Sulphate. [1+1+1+2=5]

B. i) What is double salt? Give examples.

ii) Write down any two uses of alum.

iii) Why is heating done on a steam bath instead of direct flame or oil bath? [2+2+1=5]

C. i) What is the principle of paper chromatography?

ii) What is  $R_f$  value? [3+2=5]

D. i) What is gravimetric analysis?

ii) Mention the advantages and applications of gravimetric analysis. [2+3=5]

E. i) In the gravimetric estimation of Ni, Why the pH of the solution is buffered in the range of 5 to 9?

ii) Write down the color and structure of DMG. [2+3=5]

2. Laboratory Note Book [3]

3. Performance in Class [2]

# Sukanta Mahavidyalaya

4th Semester practical Examination, 2020

Subject: Organic Chemistry(Hons)

Time: 2 Hrs

Paper : CC9

F.M. 20

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|---|--------|
| 1. Answer the following questions ( Any three)  | 3×5=15 |
| a) i) Write down the process of lassaigne's test?   | [3+2]  |
| ii) Which Special elements we can find from the Lassaigne's test?                                     |        |
| b) i) Describe the procedure of Prussian Blue Test?   | [2+3]  |
| ii) What is the Observation and Inference of this test?   |        |
| c) i) What is Esterification test?  | [3+2]  |
| ii) Write down the reaction of Esterification test?   |        |
| d) Describe the Muliken and Barker's test and which Functional group is<br>determine by Muliken test? | 5      |
| e) Give the conformational test and Observation of aromatic amine group?                              |        |
| 2) Laboratory Note Book.  | 3      |
| 3) Performance in class.  | 2      |

# Sukanta Mahavidyalaya

## 4<sup>th</sup> Semester practical examination, 2020

### Sub : Physical Chemistry

Time : 2Hrs

Paper : CC 10

F.M. 20

1. Answer the following questions (**Any three**)[3×5 = 15]

- a) i) Define Specific Conductance and Equivalent Conductance with its Unit.  
ii) Why Conductometric experiment are not performed using direct current? [3+2]
- b) i) How is ionic product of water determined using conductometric measurement ?  
ii) Draw the conductometric titration curve in titration of KCl solution by AgNO<sub>3</sub> Solution. Point out the equivalent point. [3+2]
- c) Why different type of titration curve will show in Strong Acid Vs Strong Base and Strong base Vs Weak Acid explain it with graphical plot. [2.5 +2.5]
- d) i) What will be nature of dE/dV Vs V and pH Vs V (V= volume of alkali) for potentiometric titration of HCl Vs NaOH 3  
ii) Why KCl is used in a salt bridge instead of NaCl.
- e) i) Write down the Mathematical principle and graphical plot of potentiometric titration of Mohr's Salt Vs K<sub>2</sub>Cr<sub>2</sub>O<sub>7</sub>  
ii) Point out some advantage of quinhydrone electrode over Hydrogen electrode. [3+2]

2. Laboratory Note Book.

3

3. Performance in class.

2

# Sukanta Mahavidyalaya

## 4<sup>th</sup> Semester practical examination, 2020

### Sub : Chemistry

Time : 2Hrs

Paper : DSC/GE

F.M. 20

1. Answer the following questions (**Any three**)[3×5 = 15]

- a) i) Define viscosity Coefficient of liquid and its Unit.  
ii) What is surface tension ?  
iii) How does the surface tension of a liquid vary with temperature. [ 2 +1 + 2]
- b) i) How can you Determine the relative Surface tension of liquid using Stalagmometer.  
Explain with mathematical principle  
ii) How can you Determine the relative Viscosity of liquid using Ostwalds Viscometer.  
Explain with mathematical principle [2.5 +2.5]
- c) i) What is Acid Radical and Basic Radical give example .  
ii) Write some difference between dry test and wet test.  
iii) Explain the fusion test of Mn and Cr metal with chemical reaction. [2+1+2]
- d) Explain Chromyl chloride test and Ring test with chemical reaction 5
- e) i). Why basic radicals are showing the colours in flame test .  
ii) Write chemical equation of silver nitrate test  
iii) What is Sodalime test ? which radical responds this test? [2+1 +2]

2. Laboratory Note Book. 3

3. Performance in class. 2

# Sukanta Mahavidyalaya

4th Semester Practical Examination, 2020

Subject: Green Chemistry

Time: 2 Hrs

Paper: SEC 2 ( Hons/Pass)

F.M. 20

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|--|--------|
| 1) Answer the following questions ( <b>Any three</b> ):  | 3×5=15 |
| a) i) What is the basic principal of Greener reaction?   | [3+2]  |
| ii) what is atom economy?  |        |
| b) Give the procedure and Chemicals Required in the Mechanochemical solvent free Synthesis of Azomethines? | 5      |
| c) Give the reaction and green context of Mechanochemical Solvent free Synthesis of Azomethines?           | 5      |
| d) Give the reaction and Chemicals Required in the Preparation of Biodiesel from Vegetable Oil?            | 5      |
| e) Give the procedure and green context of preparation of Biodiesel from Vegetable Oil?                    | 5      |
| 2) Laboratory Note Book.   | 3      |
| 3) Performance in Class.   | 2      |