



GOVERNMENT COLLEGE OF ENGINEERING, JALGAON

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Name of Examination : **FY Winter 2021** - (Preview)

Course Code & Course Name : **SH102U - Engineering Chemistry**

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Maximum Marks : **60**

Duration : **3 Hrs**

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Answer Key Submission Type: Marking scheme with model answers and solutions of numerical

Instructions:

1. All questions are compulsory.
2. Illustrate your answer with suitable figures/sketches wherever necessary.
3. Assume suitable additional data; if required.
4. Use of logarithmic table, drawing instruments and non programmable calculators is allowed.
5. Figures to the right indicate full marks.

Q1) Solve any three of the following

- a) Define polymer. Explain synthesis, properties and uses of teflon [5]
- b) what is IR spectroscopy and its application [5]
- c) Write a note on synthetic lubricants. [5]
- d) Write any four units of hardness of water. [5]

Q2) Solve any three of the following

- a) Define flash and fire point and give its significance. [5]
- b) write an short note on thermal analysis [5]
- c) Explain fractional distillation of crude oil with labelled diagram [5]
- d) A water sample on analysis gives the following constituents. Calculate temporary hardness, permanent hardness and total hardness present in the water sample. [5]

MgCl ₂ = 9.5 ppm.	CaSO ₄ = 13.6 ppm
NaCl = 12.5 ppm	SiO ₂ = 2.4 ppm
Mg(HCO ₃) ₂ = 7.3 ppm	Ca(HCO ₃) ₂ = 16.2 ppm

Q3) Solve the following

- a) Describe electroplating method of metal coating [5]
- b) What is fuel? What are the characteristics of good fuel [5]
- c) Explain BOD and COD in detail [5]

Q4) Write a short note on (any three)

- a) Solid waste management by incineration method. [5]
- b) Adhesive and its types. [5]
- c) Geothermal energy [5]
- d) Nuclear waste disposal [5]

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