SANT GADGE BABA AMRVATI UNIVERSITY, AMRAVATI
Summer Examination 2020
HVPM's College of Engineering and Technology, Amravati
Department of First year Engineering
Bachelor of Engineering Sem.:- I & II (Old)

Subject:- Engineering Chemistry **Code :- 1B2**

Instructions:-

1) Solve any two questions

2) All question carry equal marks

Q.No.1

a) What is the principle of EDTA method? Describe the estimation of hardness of water by EDTA method**.** **2 Credit Point (CP)**

b) Define Corrosion of metals. What are the types of corrosion? **2 CP**

c) Explain the raw materials and manufacture of cement by wet process. **2 CP**

d) What are chemical fuels? Give the classification of chemical fuel with examples. **2 CP**

e) Explain the classification of polymer on the basis of structure. **1 CP**

f) Define the terms: i) Greenhouse effect ii) Acid rain **1 CP**

Q.No.2

a) What are the water quality physical parameters? Explain its significance. **2 CP**

b) Explain the electrochemical theory of wet corrosion, giving its mechanism. **2 CP**

c) Differentiate between setting and hardening of cement. **2 CP**

d) What is meant by calorific values of a fuel? **1 CP**

e) Differentiate between thermosetting and thermoplastic resin. **1 CP**

f) Green plants use carbon dioxide for photosynthesis and return oxygen to the atmosphere, even then carbon dioxide is considered to be responsible for greenhouse effect. Explain why? **2 CP**

Q.No.3

a)) Define carbonate and non-carbonate hardness of water. Write disadvantages of hard water for domestic use **2 CP**

b) Write note on nuclear binding energy, nuclear fusion and critical mass. **2 CP**

c) Differentiate between chemical and electrochemical corrosion. **1 CP**

d) Explain: i) viscosity and viscosity index ii) Flash point and fire point **2 CP**

e) Explain the preparation, properties and uses of PVC, Teflon and Bakelite. **2 CP**

f) What are biodegradable and non-biodegradable pollutants? **1 CP**

Q.No.4

a) Differentiate between temporary and permanent hardness of water. Write their units. **2 CP**

b) Write the application of Nano materials. **1 CP**

c) Explain the component of nuclear power reactor. **2 CP**

d) Discuss the classification of lubricants. **2 CP**

e) Explain cationic mechanism of polymerization. **1 CP**

F) On the basis of chemical reactions involved, explain how chlorofluorocarbons cause thinning of ozone layer in stratosphere. **2 CP**