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B. Tech  
BSCC 2201

THIRD SEMESTER EXAMINATION – 2005

CHEMISTRY – II

Full Marks : 70

Time : 3 Hours

*Answer Question No. 1 which is compulsory and any  
five questions from the rest.*

*The figures in the right-hand margin indicate marks  
for the questions.*

1. Answer the following questions : 10×2
- (a) Define octane number. How can it be improved ?
- (b) Why are Zinc and magnesium frequently used as sacrificial anodes ?

P.T.O.

- (c) What is green house effect ?
- (d) Define hardness of water. How is it expressed ?
- (e) Write down one example for addition polymer and one for condensation polymer.
- (f) Name any four characteristics of a good fuel.
- (g) Define cetane number of a diesel fuel. How can it be improved ?
- (h) What is meant by carbonisation of coal ?
- (i) Distinguish between dry corrosion and wet corrosion.
- (j) Explain the meaning of terms : Pollutants and contaminants.
2. Define step growth polymerisation. What is homochain polymer ? Give one example. Distinguish between chain and condensation polymerisation.
- 2+2+2+4

3. Define cracking. Mention two important methods of cracking. Catalytic cracking of heavy oil is superior method to thermal cracking process – why ?
- 2+2+6
4. Explain the term 'Combustion' with an example. What is meant by explosive range of a fuel ? Calculate the amount of theoretical air required for the combustion of 2 kg of coal.
- 2+2+3+3
5. What are the possible reactions at the cathode of aqueous corrosion cell ? Oxygen is corrosion stimulant at the Cathode – how ? Galvanising is preferred to tinning – why ?
- 4+3+3
6. Give two important aspects of ozone layer. What is the cause of the depletion of ozone layer ? How does automobile exhaust contribute to air pollution ?
- 2+3+5
7. What are the forces affecting the strength of the polymer ? Give the importance of vulcanisation in

rubber. What is meant by thermal initiator ? Give one example. 3+3+2+2

8. Write short notes on : 5+5

(a) PVC

(b) Polystyrene.

IWL