

Registration No. :

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Total number of printed pages – 4

B. Tech
BSCC 1208(N)/BSCC 2201(O)

Third Semester Examination – 2010

CHEMISTRY – II
(New and Old Course)

Full Marks – 70

Time : 3 Hours

(Students are required to give their answer any one Course according to the Syllabus)

(NEW COURSE)

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

The figures in the right-hand margin indicate marks.

1. Answer the followings : 2×10
- (a) What is the difference between hardness and total hardness of water ?
- (b) What is the amount of metal gets deposited if 1gm equivalent of the metal salt is being electrolysed ?
- (c) What do you understand by calorific value of oil ?
- (d) Give two examples of antiknocking agent.
- (e) What is the composition of producer and water gas ?
- (f) What is the difference between a dry cell and a wet cell ?
- (g) What are the uses of PMMA ?
- (h) What are the nano materials used in the construction of a fuel cell ?
- (i) What is P-B ratio ? What is its application ?
- (j) What should be the minimum level of BOD and COD in case of pure drinking water ?

P.T.O.

2. (a) Discuss the construction and functioning of lead storage cell. 6
(b) Alkaline cells are better than acid cells. Justify. 4
3. (a) Discuss briefly the determination of hardness of water. 6
(b) Discuss Faraday's first law of electrolysis. 4
4. (a) Discuss briefly the determination of calorific value using Dulong's formula. 4
(b) Discuss briefly the measures should be taken to prevent/control corrosion. 6
5. (a) Discuss the synthesis of Nylon-6. 4
(b) Discuss the mechanism involved in the formation of a addition polymer. 6
6. (a) Discuss briefly the synthesis of bakelite. 6
(b) Discuss one method of synthesis of carbon nano tube. 4
7. (a) Carbon nano tube has a strength 10 times more than steel. Justify. 6
(b) Polycarbonates has find extensive use. Justify. 4
8. Write short notes on : 5×2
(a) NiCad battery
(b) Cathodic protection.

(OLD COURSE)

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

The figures in the right-hand margin indicate marks.

1. Answer the followings : 2×10
- (a) What are the different parameters to measure the water quality?
 - (b) Alums are being used to purify water. What process does it involve?
 - (c) Give one example of stress corrosion.
 - (d) What do you understand by octane and cetane number?
 - (e) What is the composition of producer and water gas?
 - (f) What do you understand by P-B ratio?
 - (g) What are the uses of PMMA?
 - (h) What is cracking?
 - (i) What are the greenhouse gases?
 - (j) What should be the minimum level of BOD and COD in case of pure drinking water?
2. (a) Discuss briefly analysis of coal. 6
- (b) What is fractional distillation? Explain with example. 4
3. (a) Discuss factors responsible for the depletion of the ozone layer. 6
- (b) Discuss Faraday's first law of electrolysis. 4
4. (a) Discuss briefly the determination of calorific value using Dulong's formula. 4
- (b) Discuss briefly the measures should be taken to prevent/control corrosion. 6

5. (a) Discuss the synthesis of Nylon -6 : 6. 4
(b) Discuss the vulcanization of rubber. 6
6. (a) What is/are the bio-chemical effect of Arsenic? 4
(b) What is cathodic protection. Explain with example. 6
7. (a) How a metallurgical coke is different from normal one? Outline the manufacturing process of metallurgical coke. 6
(b) Differentiate between thermoplastics to that of thermosetting polymers. 4
8. Write short notes on : 5×2
(a) Silicones
(b) Galvanic corrosion.