

2017

(5th Semester)

CHEMISTRY

EIGHTH (B) PAPER [CHEM-354 (B)]

(Industrial Chemistry)

Full Marks : 75

Time : 3 hours

(PART : B—DESCRIPTIVE)

(Marks : 50)

*The figures in the margin indicate full marks
for the questions*

1. (a) Distinguish soaps and detergents. 3
- (b) Define refractories. How are they manufactured? 4
- (c) What is the role of micronutrients on plants life? 3

OR

2. (a) Differentiate between china clay and porcelain. 3

- (b) What are bio-fertilizers? What is the advantage of using bio-fertilizers? 3
- (c) Write the methods of preparation and uses of the following : 2×2=4
 - (i) LPG
 - (ii) Water gas

3. (a) Explain the modes of operation of fermentation process. 4
- (b) Write a short note on food safety and assurance. 3
- (c) Write a short note on microbial biomass. 3

OR

4. (a) What is mutation? Discuss its function in genetic improvement of product formation. 4
- (b) What do you understand by heat transfer in food technology? What are the factors that affect heat transfer? 1+2=3
- (c) Discuss briefly the importance of minor components in food. 3
5. (a) Describe the process of 'tanning of skins' used in leather industry. 3

(3)

- (b) How will you prepare nitroglycerine? 3
- (c) Explain the following briefly : 2×2=4
- (i) BOD
- (ii) COD

OR

6. (a) Write a short note on water pollution by agriculture runoff. 3
- (b) Give an account of treatment of tannery effluents. 3
- (c) What is an explosive? Give one method of preparation of dynamite. 1+3=4
7. (a) Discuss briefly the 'gasification' of coal. 3
- (b) Write the economic importance of coal. 3
- (c) Write short notes on the following : 2×2=4
- (i) Knocking
- (ii) Synthetic petrol

OR

8. (a) What is producer gas? Mention its properties and uses. 3
- (b) Explain 'cracking of petroleum'. 3

(4)

- (c) What are different chemicals manufactured from coal tar? 2
- (d) What are the environmental impacts of coal mining? 2

9. (a) What is textile design? Write in short about designer's projection. 1+2=3
- (b) How will you prepare polyaniline? Write its application. 3
- (c) What are polyurethanes? Write the two methods of formation of polyurethanes. 1+3=4

OR

10. (a) Discuss the importance of timing in the textile industry. 4
- (b) How do we facilitate colour combinations during textile designing? 3
- (c) How will you prepare polyester? Write its applications. 3

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Subject Code : CHEM/V/08 (b)

Booklet No. A

Date Stamp

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To be filled in by the Candidate

DEGREE 5th Semester
(Arts / Science / Commerce /
.....) Exam., **2017**

Subject

Paper

INSTRUCTIONS TO CANDIDATES

1. The Booklet No. of this script should be quoted in the answer script meant for descriptive type questions and vice versa.
2. This paper should be ANSWERED FIRST and submitted within 1 (one) Hour of the commencement of the Examination.
3. While answering the questions of this booklet, any cutting, erasing, over-writing or furnishing more than one answer is prohibited. Any rough work, if required, should be done only on the main Answer Book. Instructions given in each question should be followed for answering that question only.

To be filled in by the Candidate

DEGREE 5th Semester
(Arts / Science / Commerce /
.....) Exam., **2017**

Roll No.

Regn. No.

Subject

Paper

Descriptive Type

Booklet No. B

*Signature of
Scrutiniser(s)*

*Signature of
Examiner(s)*

*Signature of
Invigilator(s)*

/221

CHEM/V/08 (b)

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(5th Semester)

CHEMISTRY

EIGHTH (B) PAPER [CHEM-354 (B)]

(Industrial Chemistry)

(PART : A—OBJECTIVE)

(Marks : 25)

The figures in the margin indicate full marks for the questions

SECTION—A

(Marks : 10)

Put a Tick (✓) mark against the correct answer in the
brackets provided : 1×10=10

1. The gas which is present in LPG is

- (a) propane and butane ()
- (b) methane and butane ()
- (c) methane and propane ()
- (d) methane and benzene ()

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(2)

2. The formula of china clay is

(a) $\text{Al}_3\text{Si}_2\text{O}_5(\text{OH})_4$ ()

(b) $\text{Al}_2\text{Si}_2\text{O}_5(\text{OH})_4$ ()

(c) $\text{Al}_2\text{SiO}_5(\text{OH})_4$ ()

(d) $\text{Al}_2\text{Si}_2\text{O}_4(\text{OH})_4$ ()

3. The process of removing heat from low-temperature reservoir and transferring it to high-temperature reservoir is

(a) fermentation ()

(b) pasteurization ()

(c) refrigeration ()

(d) None of the above ()

4. Most industrial enzymes are obtained from

(a) plants ()

(b) microbes ()

(c) insects ()

(d) animal tissues ()

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(3)

5. Both temporary and permanent hardness of water can be removed by

- (a) boiling ()
- (b) distillation ()
- (c) filtration ()
- (d) All of the above ()

6. Bitumen is used as

- (a) road surfacing ()
- (b) lubricant ()
- (c) motor fuel ()
- (d) None of the above ()

7. The solid fuels can be used in internal combustion engine only after their

- (a) solidification ()
- (b) liquefaction ()
- (c) gasification ()
- (d) None of the above ()

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(4)

8. The monomer of polyvinyl chloride (PVC) is

- (a) chloroethene ()
- (b) chloroethane ()
- (c) ethylene trichloride ()
- (d) chloroform ()

9. Which of the following is not a polyamide?

- (a) Kevlar ()
- (b) Glycogen ()
- (c) Protein ()
- (d) Nylon-66 ()

10. The quality of the yarn mainly depends on which parameter of the fibre in textile industry?

- (a) Fineness ()
- (b) Maturity ()
- (c) Length ()
- (d) Cross linking ()

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(5)

SECTION—B

(Marks : 15)

Answer the following questions :

3×5=15

1. What is ceramic? What are the main raw materials of ceramic?

(6)

2. Discuss briefly about food preservation.

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(7)

3. Describe the process of curing of leather.

(8)

4. What is octane number? How can we increase the octane number in fuel?

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(9)

5. Describe how texture of the paper could affect designing in textile industry.

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