Code No. 14509/CBCS

FACULTY OF ENGINEERING

B.E. II-Semester (CBCS) (Backlog) Examination, July 2021

Subject : Engineering Chemistry-II

Time: 2 hours **Max. Marks: 70**

Note: Missing data, if any, may be suitably assumed.

PART – A

Answer any five questions. **(5x2 = 10 Marks)**

1 Define the terms i) specific conductance ii) equivalent conductance

2 Calculate the single electrode potential of the following Zinc electrode at 25^0C.

$\underset{(s)}{Zn} / \underset{(0.01\,m)}{Zn^{2+}}$, Given $E^0_{Zn^{2+}/zn} = -0.76V$

3 Write a note on Zinc-Carbon battery.

4 Write any three applications of Lithium ion batteries.

5 Explain pitting corrosion.

6 What is tinning? Explain with a suitable example.

7 Write the characteristics of a good fuel.

8 Calculate the gross and net calorific value of coal having the following compositions.
Carbon =85%, hydrogen=8%, sulphur=1%, nitrogen=2% ash=4%,
Latent heat of steam = 587 cal.g^{-1}

9 Explain thermo tropic liquid crystals.

10 Write any two applications of composites.

PART – B

Answer any four questions. **(4x15 = 60 Marks)**

11 a) State and explain Kohlrausch Law. How do you determine the λ_∞ of NH4OH? Explain.

b) While determining the pH of a solution, the quinhydrone electrode was used in conjunction with a saturated calomel electrode. The e.m.f. of the cell was found to be 0.26 V at 25^0C . Calculate the pH of solution at this temperature.
$E_{calories}$ =+0.24 V at 25^0C and $E^0_{Q/QH_2} = +0.70V$

12 a) Explain the construction and working of Lead-acid battery with discharging and charging reactions.

b) What are solar cells? How do we convert solar energy to electrical energy? Explain.

13 a) Explain the mechanism of electrochemical corrosion.

b) What is a sacrificial anode? Mention its role in corrosion control.

14 a) What do you understand by the term “theoretical air requirement” for combustion? Explain.

b) What is cetane number? How is the quality of diesel improved? How is it related to the chemical composition and molecular structure of the fuel?

15 a) What are fibre-reinforced composites? What are their applications?

b) Give two examples of reactions taking place by obeying the principles of Green Chemistry.

16 a) What are various types of potentiometric titrations? Explain with suitable examples.

b) How do you represent quin hydrone electrode? Write its electrodic reaction for reduction process. What is the S.R.P. (Standard reduction potential) value of the electrode?

17 a) Write short notes on i) Hot dipping ii) electro plating

b) Write the composition & uses of LPG and CNG.

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Code No. 15011 / AICTE

FACULTY OF ENGINEERING

B.E. (CE/EE/Inst/CSE/CME) (AICTE) II – Semester (Backlog) Examination, July 2021

Subject: Indian Constitution

Time: 2 hours **Max. Marks: 70**

Note: Missing data, if any, may be suitably assumed.

PART – A

Answer any five questions. **(5x2 = 10 Marks)**

1 What was the proposals of Cabinet Mission Plan?

2 What are the main aspects of the “Objective of Resolutions”?

3 What are the sources of Indian Constitution?

4 Why is Article 32 is consider as Conner Stone of Indian Constitution?

5 What are the special features of Fundamental Rights?

6 Write a note on impeachment procedure of the President.

7 List a few items mention in the concurrent list and state list.

8 What are the features of Finance Commission?

9 What was the significance of Indian Act of 1935?

10 What are the major functions of National Commission for Women?

PART – B

Answer any four questions. **(4x15 = 60 Marks)**

11 Explain the salient features of Indian Constitution.

12 Discuss the nature and classification of Directive Principles of State Policy.

13 Critically examine the Emergency Powers of the President.

14 Discuss the Administrative Relations between Union Govt. and State Govt.

15 Explain the powers and functions of Elections Commission in India.

16 Explain the Powers and Duties of the Prime Minister in relation to President.

17 Write short notes on:
   a) Balwant Rai Mehta Committee
   b) Collective Responsibility
   c) Appointment of Governor
   d) National Human Rights Commission.

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Code No.15012/AICTE

FACULTY OF ENGINEERING

B. E. II – Semester (ECE/M/P/AE/IT) (AICTE) (Backlog) Examination, July 2021

Subject: Essence of Indian Traditional Knowledge

Time: 2 hours **Max. Marks: 70**

Note: (Missing data, if any, may be suitably assumed)

PART – A

Answer any five questions **(5 x 2 = 10 Marks)**

1. What is civilization? Explain in brief.
2. Write a short note on Indian culture.
3. Explain the literature of south India.
4. What is “Sunyavada”.
5. Explain the four noble truths.
6. Jainism – write a short note.
7. Explain the Indian handicrafts.
8. Dance and Drama explain in Brief.
9. Science and Scientists – Discuss.
10. Explain the Education system in India?

PART – B

Answer any four questions. **(4 x 15 = 60 Marks)**

11. (a) Explain the general characteristics of culture?
    (b) What are the importance of culture in human literature?
12. (a) Write about the role of Sanskrit language in Indian Literature?
    (b) Discuss about the culture and literature?
13. (a) Explain in detail the religion and philosophy?
    (b) Explain the chief characteristics of religion?
14. (a) Give a detailed account of Indian painting?
    (b) What are the historical development on Fine Arts in India?
15. (a) What are the aims of education system in India?
    (b) Explain the science and scientists of Ancient India?
16. (a) Write about the development of Technology in India?
    (b) Critically examine the Dance and Drama?
17. (a) Explain the role of science and technology in Indian Architecture?
    (b) What do you understand by the concept of Modern Indian Music?

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