

FACULTY OF ENGINEERING**B.E. II - Semester (CBCS) (Backlog) Examination, October 2021****Subject: Engineering Chemistry - II****Time: 2 Hours****Max. Marks: 70****(Missing data, if any, may be suitably assumed)****PART – A****Note: Answer any five questions.****(5x2 = 10 Marks)**

- 1 Sketch a plot to show the effect of dilution on equivalent conductance of an electrolyte.
- 2 Describe the working of hydrogen electrode.
- 3 Give the charging and discharging reactions of a lead-acid battery.
- 4 What is a photovoltaic cell?
- 5 State and explain Pilling-Bedworth Rule.
- 6 Give a brief note on galvanizing process.
- 7 Define cetane and octane numbers.
- 8 Calculate the volume of air required for complete combustion of a 1 m³ of a gaseous fuel with a composition of CO-40%; CH₄-16%; H₂-40%; C₂H₂ – 2%; CO₂-1% and the rest N₂.
- 9 Mention any two differences between thermotropic and lyotropic liquid crystals.
- 10 What is atom economy? Explain with an example.

PART – B**Note: Answer any four questions.****(4x15 = 60 Marks)**

- 11 (a) Explain the principle involved in the redox titration by potentiometry.
(b) What is the EMF of the following cell at 25°C?

$$\text{Zn}_{(s)} | \text{Zn}^{2+} (0.01 \text{ m}) | \text{Ag}^+ (0.1 \text{ m}) | \text{Ag}_{(s)}$$

The standard potentials of $\text{Zn}_{(s)} | \text{Zn}^{2+}$ and Ag / Ag^+ are 0.76 and 0.80V respectively. Give the overall cell reaction and the reactions at both the electrodes.
- 12 (a) Discuss the differences in the working of H₂-O₂ alkaline and methanol-oxygen fuel cells.
(b) Give a note on Li ion battery and its applications.
- 13 (a) Compare the sacrificial anode and impressed current cathode methods of cathodic protection against corrosion.
(b) Distinguish dry and wet corrosion by their mechanism.
- 14 What are the factors that can affect rate of corrosion? Explain.
- 15 Discuss in detail the proximate and ultimate analysis of coal and its significance.
- 16 Explain the catalytic cracking by moving bed method and the significance of cracking.
- 17 Give a detailed note on types of composites.

FACULTY OF ENGINEERING

**B.E. II– Semester (CE/EE/EIE/CSE/CME) AICTE (Backlog) Examination,
October 2021**

Subject: Indian Constitution

Time: 2 hours

Max. Marks: 70

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

PART-A

Answer any five questions:

(5x2=10 Marks)

1. What are the Phases of Indian national Movement?
2. What are the Fundamental Rights mention in Indian Constitution?
3. Write a Note on Universal Adult Franchise.
4. What is Dyarchy?
5. Write a note on State Legislature.
6. What are the functions of Vice President of India?
7. What do you understand by De-centralization?
8. Write about the Election Commission of India.
9. Write about the significance of NITI Ayog.
10. Explain the Inter State council.

PART-B

Answer any four questions:

(4x15=60 Marks)

11. Explain the Salient features of Indian constitution.
12. Explain in brief the ordinary powers of President of India.
13. Explain the Powers and Functions of Prime of India.
14. Examine the role of Governor in State Administration.
15. Explain the Financial relations between the center and state.
16. Explain the historical relevance of PRI in India.
17. Write a Short Notes on
 - a. Major Electoral Reforms in India .
 - b. National Human Rights Commission works in India.
 - c. Relevance of Fundamental duties.
 - d. Finance Committee.

FACULTY OF ENGINEERING

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

Subject: Essence of Indian Traditional Knowledge

Time: 2 hours

Max. Marks: 70

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

PART-A

Answer any five questions:

(5x2=10 Marks)

1. Define Philosophy?
2. What is perception?
3. What is Anekantavada?
4. Concept of 'Indian Architecture'? Explain.
5. Explain concept of "Indian Culture"?
6. What is Four Noble Truths? Explain in brief.
7. What is Yoga?
8. Explain Northern Indian Languages?
9. What are the aims of Indian Education system?
10. What is Satyagraha? Explain in brief.

PART-B

Answer any four questions:

(4x15=60 Marks)

11. What are the general characteristics of Indian Philosophy?
12. Explain the Chief characteristics of Indian Culture?
13. Write a note on Indian Languages and Indian Literature?
14. Discuss about the Culture and Heritage?
15. Write a note on Jainism?
16. Explain the Dance and Drama?
17. What are the development of Science in Modern India?

FACULTY OF ENGINEERING
B.E. II - Semester (AICTE) (Main) Examination, October 2021
Subject: Indian Constitution

Time: 2 Hours

Max. Marks: 70

- Note:**
- i) First Question is compulsory. Answer any three questions from the remaining six questions.
 - ii) Answer to each question must be written at one place only and in the same order as they occur in the question paper.
 - iii) Missing data, if any, may suitably be assumed.

1 Answer any four following questions. (4x4 =16 Marks)

- (a) What is known as August Offer?
- (b) Write a note on Citizen Ship.
- (c) Write about Article 14.
- (d) How is the Governor of the State Appointed?
- (e) Write about Ashok Mehta committee.
- (f) Write a short note on Interstate council.
- (g) What is Collective Responsibility?

(3x18 = 54 Marks)

- 2 (a) "The origins of the Indian political system are rooted in the history of British." Comment.
(b) Explain the Salient features of Indian Constitution.
- 3 (a) Describe in a brief the powers and functions the vice President of India.
(b) Discuss the Recent Trends in Relations between Union Govt. and State Govt.
- 4 (a) Explain the Role and power of Union Council of Minister of Indian in Indian Government.
(b) Explain the Powers and Functions of Elections Commission in India.
- 5 (a) Write in brief the significance of Directive Principles of State Policy.
(b) Explain the Fundamental Duties and its significance mention in the Indian Constitution.
- 6 (a) What is the role played by Finance Commission in balancing Centre & State relations?
(b) Give a brief about the various committee related to Panchayat Raj Institutions.
- 7 (a) Explain the socio-economic determinants of voting behaviour.
(b) Writ the Role and need of Human Right Commission in India.

FACULTY OF ENGINEERING
B.E. II – Semester (AICTE) (Main) Examination, October 2021

Subject: Essence of Indian Traditional Knowledge

Time: 2 hours

Max. Marks: 70

- Note:** i) **First Question is compulsory. Answer any three questions from the remaining six questions.**
ii) **Answer to each question must be written at one place only and in the same order as they occur in the question paper.**
iii) **Missing data, if any, may suitably be assumed.**

1 Answer any four questions from the following: (4x4=16 Marks)

- (a) What are the source of Indian Philosophy?
- (b) Write a note on civilization? Explain.
- (c) What is Sarvodaya?
- (d) Explain the Northern Indian languages?
- (e) Write a note on Jainism?
- (f) What are the development of Indian painting?
- (g) What are the aims of Indian Education system?

(3x18 = 54 Marks)

- 2(a) Explain the general characteristics of Culture?
(b) Write an essay on "Heritage"?

- 3(a) What is Sunyavada? Explain.
(b) Write a note on Culture and Literature?

- 4(a) What are the relationship between religion and Philosophy?
(b) Write about Education System in Ancient India?

- 5(a) What are the divisions of Indian Classic Music?
(b) Write a note on Indian Architecture?

- 6(a) Write an essay on "Fine Arts in India"?
(b) NEP-New Education Policy-2020? Explain

- 7(a) Discuss the role of Education in Social change?
(b) Explain the Science and Scientists of Ancient India?