SHRIDEVI

SHRIDEVI INSTITUTE OF ENGINEERING AND TECHNOLOGY

Sira Road, Tumkur - 572 106, Karnataka, India.

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2020-21

Assignment

SHRIDEVI INSTITUTE OF ENGINEERING & TECHNOLOGY



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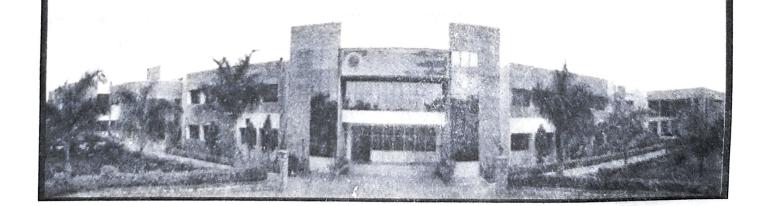
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ASSIGNMENT BOOK

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CERTIFICATE

This is to certify that Mr./Ms. ABHISHEK_B
with USN
assignments in the subject of
by the Visvesvaraya Technological University for theyear / semester
B.EB.E. / M.Tech. MBA degree course in the year 20ஆ -20ஆ

Abhishik B Signature of the Student

Course Instructor

2020-2021





Department of Chemistry

Subject: Engineering Chemistry

Sem/ Sec: I/ C

Assignments-1

- 1. Derive Nernst equation for single electrode potential
- 2. Explain the construction, working and advantages of Calomel electrode.
- 3. Calculate the emf of the cell Fe / Fe++ (0.01) // Ag+ (0.1) /Ag at 298K if standard electrode potentials of Fe and Ag electrodes are -0.42 and 0.8 V respectively.
- 4. Explain the Construction and working of Glass electrode?
- 5. Explain the construction, working and uses of Ni-MH battery
- 6. An electrolytic concentration cell is constructed by coupling two half cell in which two Cadmium electrodes are immersed CdSO4 solution. The concentration of CdSO4 in one of the half cell is 100 times greater than the other. Write the cell representation, cell reactions and calculate the voltage of the cell at 298K
- 7. Explain the anodizing process of aluminium
- 8. What is metal finishing? Mention the technological importance of metal finishing
- 9. What are electrolytic concentration cells?
- 10. Explain the electrochemical theory of corrosion
- 11. Explain the electroless plating of copper and mention its applications
- 12. Explain the electro plating process of chromium and mention its applications

H.O.D Dept. of Chemistry S.I.E.T., TUMKUR -6

PRINCIPAL SIET. TUMAKUPI





Sem/ Sec: I/ C

Department of Chemistry

Subject: Engineering Chemistry

Assignments-2

- 1. Explain the determination of Calorific value of solid fuel using Bomb calorimeter
- 2. What is knocking of petrol engine? Explain the mechanism of knocking.
- 3. A coal sample with 93% of carbon, 5% of hydrogen, 2% of ash is subjected to combustion in a bomb calorimeter the following data is obtained. Calculate GCV and NCV of the sample. Mass of the coal sample is 0.95g, mass of the water in copper colorimeter is 2000g. water equivalent weight of calorimeter is 700g. rise in temperature is 2.8°C. specific heat of water is 1cal/g/°C.
- 4. Explain the construction, working and uses of Methanol oxygen fuel cell
- 5. Explain the construction, working and uses of solid oxide fuel cells
- 6. Explain the construction, working of photo voltaic cell.

H.O.D

Dept. of Chemistry

S.I.E.T., TUMKUR -6

PRINCIPAL SIET., TUMAKURU





Department of Chemistry

Subject: Engineering Chemistry

Assignments-3

- 1. Explain the corrosion of boiler due to CO2, MgCl2 dissolved oxygen.
- 2. What is desalination of water? explain reverse osmosis process.
- 3. Explain the determination of sulfate content of water by gravimetric method.
- 4. Write a note on scales and sludge formed in the boiler.
- 5. Explain the secondary sewage treatment method.
- 6. Explain the theory, instrumentation and applications of colorimetry?
- 7. Explain the titration curves for 1) Strong acid vs Strong base
 - 2) Weak acid v/s Strong base
- 8. Explain the properties and application of Graphene?
- 9. Explain the theory, instrumentation and applications of Potentiometry?
- 10. Explain the synthesis of nanomaterial by sol gel process
- 11. Write a note on Fullerenes. Mention its applications

H.O'.D Dept. of Chemistry S.I.E.T., TUMKUR -6

PRINCIPAL SIET., TUMAKURU

Sem/ Sec: I/ C





Department of Chemistry

Subject: Engineering Chemistry

Sem/ Sec: II/ A & B

Assignments-1

- 1. Derive Nernst equation for single electrode potential
- 2. Explain the construction, working and uses of Ni-MH battery
- 3. An electrolytic concentration cell is constructed by coupling two half cell in which two Cadmium electrodes are immersed CdSO4 solution. The concentration of CdSO4 in one of the half cell is 100 times greater than the other. Write the cell representation, cell reactions and calculate the voltage of the cell at 298K
- 4. Define corrosion? Explain the electrochemical theory of corrosion
- 5. Explain the anodizing process of aluminium
- 6. What is metal finishing? Mention the technological importance of metal finishing

H.O.D Dept. of Chemistry S.I.E.T., TUMKUR -6

PRINCIPAL SIET., TUMAKURU





Department of Chemistry

Subject: Engineering Chemistry

Sem/ Sec: II/ A & B

Assignments-2

- 1. Explain the determination of Calorific value of solid fuel using Bomb calorimeter
- 2. Define chemical fuel? Explain the classification of chemical fuel with examples
- 3. A coal sample with 93% of carbon, 5% of hydrogen, 2% of ash is subjected to combustion in a bomb calorimeter the following data is obtained. Calculate GCV and NCV of the sample. Mass of the coal sample is 0.95g, mass of the water in copper colorimeter is 2000g. water equivalent weight of calorimeter is 700g. rise in temperature is 2.8°C. specific heat of water is 1cal/g/°C.
- 4. What is knocking of petrol engine? Explain the mechanism of knocking.
- 5. Define Calorific Value and explain the types?
- 6. Write a note on a) Power alcohol b) Biodiesel
- 7. What are fuel cells? Mention the differences between fuel cells and conventional cells.
- 8. Explain the construction, working and uses of Methanol oxygen fuel cell
- Explain the construction, working and uses of solid oxide fuel cells
- 10. What are Photovoltaic cells? Mention the Advantages and Disadvantage
- 11. Explain the construction and working of photovoltaic cells
- 12. When 0.84g of coal was burnt completely in Bomb calorimeter the increase in temp of 2655 grams of water was 1.85°C if the water equivalent calorimeter is 156g Calculate GCV.

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S.I.E.T., TUMKUR 6

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Department of Chemistry

Subject: Engineering Chemistry

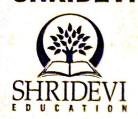
Sem/ Sec: II/ A & B

Assignments-3

- 1. Define terms a) Free energy b) Entropy c) Cell potential
- 2. What are ion selective electrodes? Explain the construction of ion selective electrodes.
- 3. A cell is constructed by coupling Ni electrode dipped in 0.01 M NiSO4 and Pb electrode dipped in 0.5 M PbSO4. Write the cell representation, cell reaction. Calculate the EMF of cell, given that reduction potentials of Ni and Pb are 0.24 and 0.13 volt respectively.
- 4. An electrolytic concentration cell is constructed by coupling two half cell in which two Cadmium electrodes are immersed CdSO4 solution. The concentration of CdSO4in one of half cell is 10 times greater than other. Write the cell representation, cell reactions and calculate the voltage of the cell at 298K.
- 5. Define Battery and explain the classification of batteries.
- 6. Explain the construction and working and uses of Lithium ion batteries
- 7. Explain the differential metal corrosion. Give example
- 8. Explain the effect of the following factors on the rate of corrosion i) Nature of corrosion product ii) Temperature iii) pH
- 9. What is Electro less plating? Distinction between Electro plating and Electro less plating.
- 10. Explain the process of galvanization. Mention the uses of galvanization.
- 11. An electrolytic concentration cell is constructed by coupling two half cell in which two Alluminium electrodes are immersed in 0.1M Al₂(SO₄)₃ and 10 M Al₂(SO₄)₃ solution. Write the cell representation, cell reactions and calculate the voltage of the cell at 25°C.
- 12. Explain the construction and working of photovoltaic cells

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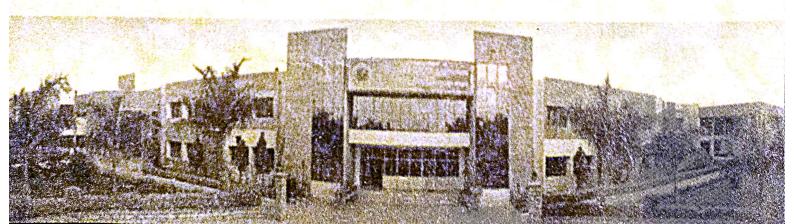
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DEPARTMENT OF .. Electronics & Communication

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Course Instructor

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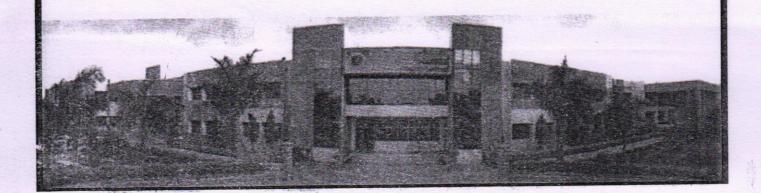
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	C.P.S	
DEPARTMENT OF	Of	

Name	: Mr. / Ms. Dipendra Kumar Pandit
Course	BE CIVIL
Course Code	:
Semester	: 18
USN	: 1 3 V 2 0 C V 0 0 3



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This is to certify that Mr./Ms. Dipen In land Pandot
with USN
assignments in the subject of Commander of the front as prescribed
with USN
B.E./M.Tech. MBA degree course in the year 202# -20

Signature of the Student

Course Instructor

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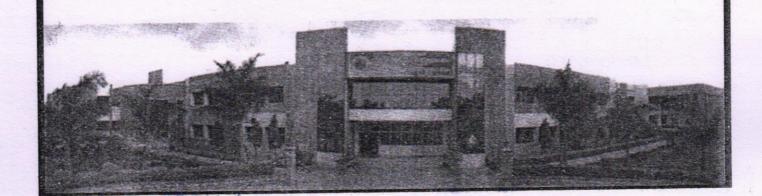
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DEPARTMENT OF	
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Name	: Mr. / Ms. Yamuna · M
Course	. C-Program for Problem Solving
Course Code	18 CPS 13
Semester	: Ist
USN	:15 V 2 0 C V 0 1 4



Date	Assignment No.	Max. Marks	Marks Obtained	Course Instructor Signature
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This is to certify that Mr./Ms. Jamuna . M
with USN 15 V 20 CV 0 14 has satisfactorily completed the course of
assignments in the subject of C programing for problem solving (18 CPS 13) as prescribed
by the Visvesvaraya Technological University for the
B.E./M.Tech. MBA degree course in the year 20\d0 -20\d1

Signature of the Student

Course Instructor

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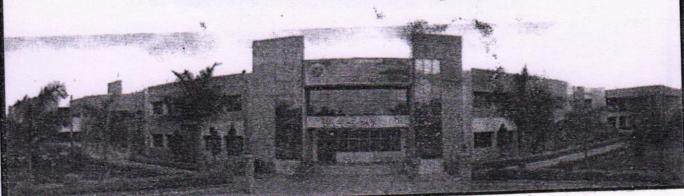
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DEPARTMENT	OF	

Name	: Mr. / Ms	ABH	ISHEK-L	3		
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by the Visvesvaraya Technological University for the

Abhishuk B Signature of the Student

Course Instructor

SHRIDEVI INSTITUTE OF ENGINEERING & TECHNOLOGY

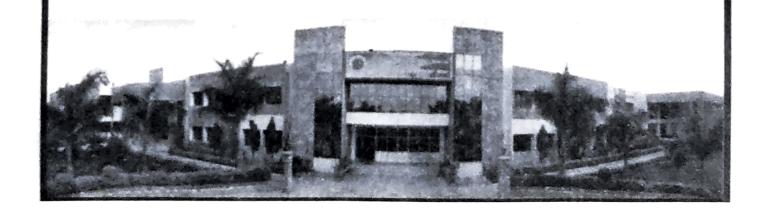


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by the Visvesvaraya Technological University for the
B.E./M.Tech. MBA degree course in the year 20ຊີປີ -20ຊີ

Signature of the Student

Course Instructor

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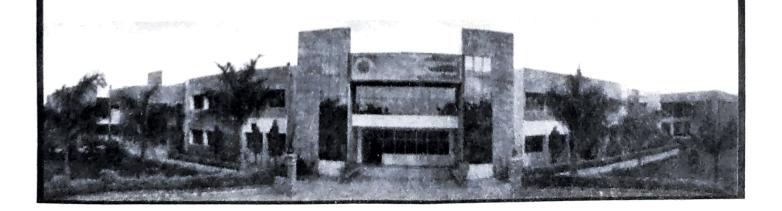
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DEPARTMENT OF CIVIC ENGINEERING

Name	: Mr. / Ms. VINAY M'K
Course	: Design of steel strumutural Engineening
Course Code	: 17CV62
Semester	: Th
USN	: 1 S V 1 8 C V 4 1 9



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with USN 1949 has satisfactor				
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by the Visvesvaraya Technological University for the	Im year/semester			
B.E./M.Tech. MBA degree course in the year 20 ² -202)				

Signature of the Student

Course Instructor

SHRIDEVI INSTITUTE OF ENGINEERING & TECHNOLOGY

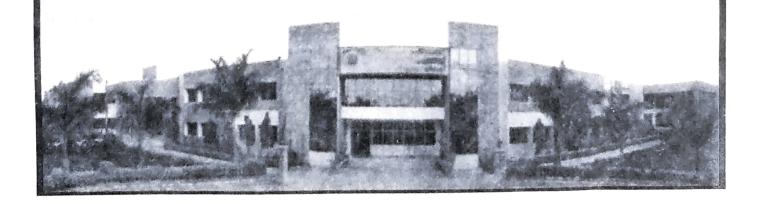


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DEPARTMENT OF	IVIL E	NUINEE	RING.
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Name	: Mr. / Ms. SHASHIKANT, DODDAKURUBAR
Course	. Design of Steel Strutterral Element
Course Code	17ev62
Semester	6th
USN	: 184186414



Date	Assignment No.	Max. Marks	Marks Obtained	Course Instructor Signature
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	4			
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	Average	10	10	HAMA

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with USN USULECYULY has satisfactorily completed the course of
assignments in the subject of Perigo of seel storent end elements prescribed
by the Visvesvaraya Technological University for the3700 / 6 h year / semester
B.E. / M :Tech. MB A degree course in the year 20え ∪-20 え ι

Signature of the Student

Course Instructor