

Total No. of Question : [4]

Registration No. :

--	--	--	--	--	--	--	--	--	--

Programme Name : Bachelor of Chemical Engineering
Regular T.Y.B.Tech. ESE (A.Y. 2023-24) Sem.V Nov.2023
V SEMESTER (2021 BATCH)
201CHL303-Chemical Equipment Design(TH)

Duration : [11:00 AM - 01:00 PM]

Date : 24 Nov, 2023

Day : Friday

Marks : 50

Instructions :

1.Read questions carefully.

(Q1) All Questions are compulsory [20.0]

(1.1) Explain design pressure and design stress [6.0]

CO :- C303.1

Blooms Taxonomy :- Understand

(1.2) A pressure vessel of internal diameter 1500mm operates at 5 Kg/cm². A vessel has to be provided a nozzle 100mm internal diameter. The nozzle is welded to the shell wall and does not project inside the vessel. Permissible stress of the material is 1020 Kg/cm². Determine the reinforcement required for the nozzle. Corrosion allowance is 1 mm. Welded joint efficiency is 85%. The design pressure is 10% excess than operating pressure. [7.0]

CO :- C303.2

Blooms Taxonomy :- Apply

(1.3) Describe the mechanical design of saddle support [7.0]

CO :- C303.3

Blooms Taxonomy :- Apply

(Q2) Attempt any two out of three questions [10.0]

(2.1) Describe method of fixing tubes to the tube sheet in heat exchanger [5.0]

CO :- C303.4

Blooms Taxonomy :- Apply

(2.2) Explain different types of entrainment separator in evaporators [5.0]

CO :- C303.4

Blooms Taxonomy :- Apply

(2.3) Classify the various types of evaporators [5.0]

CO :- C303.4
Blooms Taxonomy :- Apply

(Q3) Attempt any two out of three questions [10.0]

(3.1) Describe different heating system in reaction vessel [5.0]

CO :- C303.5
Blooms Taxonomy :- Apply

(3.2) Explain different types of agitators [5.0]

CO :- C303.5
Blooms Taxonomy :- Apply

(3.3) How calculate the thickness of half coil & channel type jacket [5.0]

CO :- C303.5
Blooms Taxonomy :- Apply

(Q4) Attempt any two out of three questions [10.0]

(4.1) Describe in detail eddy current test [5.0]

CO :- C303.6
Blooms Taxonomy :- Understand

(4.2) Classify fabrication techniques and explain one in detail [5.0]

CO :- C303.6
Blooms Taxonomy :- Understand

(4.3) Describe in detail non-destructive inspection & testing of offshore structure [5.0]

CO :- C303.6
Blooms Taxonomy :- Understand
