17 SEP 2019

Seat No._____

B.Sc. Sem. – VI

Industrial Chemistry, Paper- ICHCC-601, Subject Code: 21868

Subject Title – Fundamental of chemical engineering

Time:**2.30**Hours Maximum Marks: **70**

Que.1	(A)	Why size reduction is required? Discuss methods of size reduction in detail.	[10]
	(B)	State and explain uses of jaw crusher.	[04]
		OR	
Que.1	(A)	How Gyrotary crusher was used in chemical industry? Explain it in detail.	[10]
	(B)	State and explain uses of hammer mill.	[04]
Que.2	(A)	Differentiate fluid and solid.	[10]
	(B)	State and explain laminar and turbulent flow.	[04]
		OR	
Que.2	(A)	Explain types of flow pattern in detail.	[10]
	(B)	State and explain compressible and incompressible flow.	[04]
Que.3	(A)	Define reciprocating pump. Discuss its construction, working and principle.	[10]
	(B)	State and explain uses of ball valve.	[04]
		OR	
Que.3	(A)	Discuss its construction, working and principle of vane axial fan.	[10]
	(B)	State and explain uses of needle valve.	[04]
Que.4	(A)	Discuss its construction, working and application of plate heat exchanger.	[10]
	(B)	Explain different mode of heat transfer.	[04]
		OR	
Que.4	(A)	Discuss its construction, working and application of finned tube heat exchanger.	[10]
	(B)	State and explain uses of 1-1 type heat exchanger.	[04]
Que.5	(A)	Draw schematic sketch of Hildebrandt extractor and explain its working.	[10]
	(B)	Explain general steps occur in liquid-solid extraction process.	[04]
		OR	
Que.5	(A)	Explain mass transfer phenomena during leaching and state the formula to explain rate of mass transfer.	[10]
	(B)	Define leaching with example.	[04]