

University of Mumbai
Examination 2020 under cluster RAIT

Examinations Commencing from 23rd December 2020 to 6th January 2021 and from 7th January 2021 to 20th January 2021

Program: Instrumentation Engineering

Curriculum Scheme: Rev2016

Examination: BE Semester VII

Course Code: ISC701 and Course Name: INDUSTRIAL PROCESS CONTROL

Time: 2 hour

Max. Marks: 80

Q1.	Choose the correct option for following questions. All the Questions are compulsory and carry equal marks
Q1.	Which evaporator is used in Sugar industry:
Option A:	Horizontal tube
Option B:	Long tube vertical - climbing film
Option C:	Short tube vertical
Option D:	Falling film vertical
Q2.	Some examples of heat exchanger are: 1. Condensers and evaporators in refrigeration units. 2. Evaporator of an ice plant and milk chiller of a pasteurizing plant. 3. Automobile radiators and oil coolers of heat engines. Identify the correct answer
Option A:	1 only
Option B:	2 and 3
Option C:	1, 2 and 3
Option D:	1 and 2
Q3.	In how many categories heat exchangers are classified on the basis of direction of flow of fluids?
Option A:	4
Option B:	3
Option C:	2
Option D:	1
Q4.	In parallel flow heat exchangers,
Option A:	The exit temperature of hot fluid is always equal to the exit temperature of cold fluid
Option B:	The exit temperature of hot fluid is always less than the exit temperature of cold fluid
Option C:	The exit temperature of hot fluid is always more than the exit temperature of cold fluid
Option D:	We cannot predict comparison between exit temperatures of hot fluid and cold fluid
Q5.	The following is an accessory of a boiler.
Option A:	Pressure gauge

Option B:	Safety valve
Option C:	Fusible plug
Option D:	Superheater
Q6.	In a furnace employing forced draught as compared to induced draught,
Option A:	Air is sucked in, so air leaks are more and hence the furnace efficiency is reduced.
Option B:	The fan operates hot and hence blades are liable to corrosion and erosion.
Option C:	Positive pressure exists in furnace
Option D:	To maintain temperature inside furnace
Q7.	The process of heating a liquid mixture to form vapors and then cooling the vapors to get pure component is called _____
Option A:	Crystallization
Option B:	Distillation
Option C:	Chromatography
Option D:	Sublimation
Q8.	The distilled water is collected in _____
Option A:	Receiver
Option B:	Adapter
Option C:	Condenser
Option D:	Round bottom flask
Q9.	One of the most common solvents used for crystallization is _____
Option A:	Water
Option B:	Alcohol
Option C:	Saline
Option D:	Sulphuric acid
Q10.	The solvent should dissolve a large amount of solute at _____
Option A:	Cold temperature
Option B:	Room temperature
Option C:	Melting point
Option D:	Boiling point
Q11.	On spraying the liquid over gas leads to _____
Option A:	Humidification
Option B:	Evaporation
Option C:	Heating of gas
Option D:	Liquid turn into gas
Q12.	The additional operation requires for drying gas and liquid is _____
Option A:	Absorption
Option B:	Adsorption
Option C:	Humidification
Option D:	De-humidification
Q13.	Reactor in which _____ reaction take place

Option A:	Highly endothermic and exothermic
Option B:	Cold and hot
Option C:	Pressurized
Option D:	Low temperature
Q14.	Following problem observed in Reactor
Option A:	Hot spot and cold spot
Option B:	Only hot spot
Option C:	Only cold spot
Option D:	Controlling temperature
Q15.	Centrifugal compressors are also known as _____
Option A:	Turbo compressors
Option B:	Radial compressors
Option C:	Turbo & radial compressors
Option D:	Reciprocating compressor
Q16.	Which of the following is a type of Gas Turbine Plant?
Option A:	Single acting
Option B:	Double acting
Option C:	Open and close
Option D:	Single and double acting
Q17.	Which among these is the main component of a gas turbine plant?
Option A:	Condenser
Option B:	Compressor
Option C:	Boiler
Option D:	Evaporator
Q18.	Which type of control valve is used in Steel industry
Option A:	Equal % valve
Option B:	Goggle valve
Option C:	Butterfly valve
Option D:	Needle valve
Q19.	Sinter is a combination of
Option A:	Iron ore, coke and flux
Option B:	Iron ore, coke, flux and sand
Option C:	Iron ore, coal, limestone and flux
Option D:	Coal, coke and flux
Q20.	In refinery Industry following major component is used
Option A:	Distillation column
Option B:	Dryer
Option C:	Evaporator
Option D:	Compressor
Q2 .A	Solve any Two Questions out of Three
	10 marks each

1	Explain Bypass control in Heat Exchangers.
2	Explain control of circulating magma crystallizer.
3	Explain top product composition control in the distillation column
Q3.	Solve any Two Questions out of Three 10 marks each
1.	Explain the Thermal runaway process in the reactor
2.	What is surge control? Explain its techniques
3.	Give hazardous area classification