

GOVERNMENT POLYTECHNIC, KOLHAPUR – 416004.

(An Autonomous Institute of Govt. Of Maharashtra)

ODD TERM END EXAM NOV./DEC-2018**EXAM SEAT NO.**

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LEVEL :- FOURTH PROGRAM : SUGAR MANUFACTURING**COURSE CODE :- SMF401****COURSE NAME :- SUGAR ENGINEERING****MAX. MARKS : 80 TIME : 3 HRS. DATE :- 04/12/2018**

Instruction :-

- 1) Answers of two sections must be written in separate section answer book provided.
- 2) Illustrate your answers with sketches wherever necessary.
- 3) Use of non-programmable pocket calculator is permissible.
- 4) Mathematical and other tables shall be made available on request.
- 5) Assume and mention suitable additional data if necessary.
- 6) Use of Mobile is strictly prohibited.
- 7) QN- Question No., SQN-Sub Question No. R- Remembering, U- Understanding, A- Application.

QN	S	SECTION - I	R/ U/ A	Co SMF 401	Ma rks
Q.1		Attempt any FOUR :			08
	a)	State the function of Hydraulic accumulator.	A	1	
	b)	Define 'condensate'.	U	2	
	c)	Restate 'Accident'.	R	3	
	d)	List out the indicating instrument used in sugar factory.	R	3	
	e)	Write the common causes of Accidents.	U	3	
	f)	Draw flow chart indicating types of accidents.	A	3	
Q.2		Attempt any FOUR :			16
	a)	Summarize the construction of Mill.	U	1	
	b)	Explain the role of Hydraulic Pressure system in Milling operation.	A	1	
	c)	Tabulate the water balance in a sugar factory.	R	2	
	d)	Explain the types of condensers used in the sugar factory.	U	2	
	e)	Write the basic rules while operating instruments.	U	3	
	f)	State the duties and responsibilities of instrument operator.	R	3	
Q.3		Attempt any TWO :			16
	a)	Explain in detail the primary extraction and secondary extraction.	R	1	
	b)	Elaborate the steps to be taken to save water and heat energy in sugar factory.	A	2	
	c)	Summarize the unit operation in sugar industry where controlling is very important.	A	3	

P.T.O.

QN	S Q N	SECTION - II	R/ U/ A	Co SMF 401	Ma rks
Q.4		Attempt any FOUR :			08
	a)	Give the classification of impurities present in feed water.	R	4	
	b)	List out the analysis to be conducted on boiler water.	R	4	
	c)	State the various types of steam.	R	5	
	d)	State the function of steam trap.	R	5	
	e)	Define latent heat.	R	5	
	f)	Write the possible combinations of alternators.	U	6	
Q.5		Attempt any FOUR :			16
	a)	Calculate the gross and net calorific values of bagasse having 49% moisture content and 2.4% pol	A	4	
	b)	Explain the heat losses in flue gases during combustion of bagasse.	U	4	
	c)	Explain the use of condensate obtained from various stations in sugar industry.	U	4	
	d)	Explain the quantity of steam available from bagasse combustion.	U	5	
	e)	Elaborate the factors affecting steam balance.	A	5	
	f)	Give the characteristics of steam used for the turbine.	U	5	
Q.6		Attempt any TWO :			16
	a)	Describe the internal water treatment method for boiler water.	A	4	
	b)	Describe spreader stoker furnace with the help of schematic diagram.	A	4	
	c)	Summarize the constructional aspects of condensing turbine used in sugar industry.	A	6	
