

University of Mumbai
Examination 2020 under cluster 4 (PCE)

Program: BE Mechanical Engineering

Curriculum Scheme: Rev2012

Examination: Fourth Year Semester VII

Course Code: MEE7013 and Course Name: Energy Management

Time: 1 hour

Max. Marks: 50

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Note to the students:- All the Questions are compulsory and carry equal marks .

Q1.	The sum of present values of all the future cash flows associated with it is called
Option A:	Net present value
Option B:	Internal rate of return
Option C:	Profitability Index
Option D:	Return on investment
Q2.	Uranium is a source of energy which is
Option A:	Secondary
Option B:	Primary
Option C:	commercial
Option D:	renewable
Q3.	Meeting senior management for the aims of the audit, Studying Site drawings and making List of major equipment are activities of
Option A:	Preliminary audit
Option B:	Main audit phase
Option C:	Post audit phase
Option D:	Pre audit phase
Q4.	Analysis of barriers and supporting influences for a strategic action plan is carried out using ...
Option A:	Swot analysis
Option B:	Pareto Analysis
Option C:	Force Field analysis
Option D:	PESTEL analysis
Q5.	The arrangement that ESCO company absorbs the cost if real savings fall short of the assured level is called
Option A:	Assurance of service
Option B:	Guarantee of saving.
Option C:	Performance Guarantee
Option D:	Performance Contracting
Q6.	IRR stands for.....
Option A:	Integration rate of return
Option B:	Internal rate of return
Option C:	Interest return rate
Option D:	Investment return rate

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Q7.	Activity to compare the energy performance of facilities to each other, peers and competitors, and over time to prioritise which facilities to focus on for improvements is
Option A:	Bench Marking
Option B:	Energy Audit
Option C:	performance mapping
Option D:	data recording
Q8.	Technical ability, strategic plan and monitoring system are three pillars of successful energy management; the fourth pillar is
Option A:	BEE Training
Option B:	Team management
Option C:	Top Management support
Option D:	Energy manager
Q9.	Which of the following is a good medium for constant temperature heating?
Option A:	Water
Option B:	Steam
Option C:	Air
Option D:	Diesel
Q10.	Which part of steam heat is used for process heating
Option A:	Sensible
Option B:	Latent
Option C:	Subcooling
Option D:	de-superheating
Q11.	Capacitor used for power factor improvement does
Option A:	Reduce active power component
Option B:	Reduce reactive power component
Option C:	Reduce line voltage
Option D:	Reduce circuit current
Q12.	The instrument used for lighting level measurement is
Option A:	Lux meter
Option B:	Anemometer
Option C:	rotameter
Option D:	Thermocouple
Q13.	The kVA reduction by improving the power factor of a plant operating at 400 kW load from 0.85 to 0.95 is
Option A:	49
Option B:	40
Option C:	72
Option D:	21
Q14.	Most energy efficient option for space heating is
Option A:	Electrical heating

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Option B:	Heat Pump
Option C:	Gas fired air heaters
Option D:	Coal fired air heaters
Q15.	Bottoming cycle of cogeneration is used in which one of these industries
Option A:	Cement and Steel Industries
Option B:	Paper Mill
Option C:	Gas power plant
Option D:	Diesel Generator plant
Q16.	The efficiency of which of the following turbine is the highest
Option A:	condensing
Option B:	back pressure
Option C:	extraction condensing
Option D:	double extraction condensing
Q17.	a measure of the degree to which the colours of surfaces illuminated by a given light source confirm to those of the same surfaces under a reference illuminant is known as
Option A:	Illumination
Option B:	Glare
Option C:	Colour rendering index
Option D:	Lighting Efficacy
Q18.	The AC motor used in industry will have
Option A:	Lagging power factor
Option B:	Leading power factor
Option C:	Unity power factor
Option D:	More than one power factor
Q19.	What is the most effective way to avoid ambient air infiltration into a continuous reheating furnace?
Option A:	maintain negative pressure in furnace
Option B:	increase the chimney height
Option C:	operate at about 90% capacity
Option D:	maintain slightly positive pressure in the furnace
Q20.	Pneumatic tools such as drill and grinders consume about ____ times more energy than motor driven tools.
Option A:	10
Option B:	5
Option C:	20
Option D:	15
Q21.	The present value of Rs.2000 to be earned after 10 years' time at an interest rate of 10% is:
Option A:	771
Option B:	698

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Option C:	20000
Option D:	5188
Q22.	The device preferred for large capacities waste heat recovery applications in glass and steel melting furnaces
Option A:	ceramic recuperator
Option B:	heat wheel
Option C:	heat pipe
Option D:	regenerator
Q23.	Steam traps are used to
Option A:	allow condensate to flow and trap the steam
Option B:	Stop heat loss from system
Option C:	Allow excess steam to flow
Option D:	maintain pressure in steam pipe
Q24.	Which of the following industries has the highest Specific Electrical Energy Consumption?
Option A:	Aluminium
Option B:	Sugar
Option C:	Paper & Pulp
Option D:	Cement
Q25.	Immediate low-cost improvements and savings are identified in
Option A:	Detailed audit
Option B:	Preliminary audit
Option C:	Pre audit phase
Option D:	Post audit phase

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Question	Correct Option (Enter either 'A' or 'B' or 'C' or 'D')
Q1.	A
Q2.	B
Q3.	D
Q4	C
Q5	B
Q6	B
Q7	A
Q8.	C
Q9.	B
Q10.	B
Q11.	B
Q12.	A
Q13.	A
Q14.	B
Q15.	A
Q16.	B
Q17.	C
Q18.	A
Q19.	D
Q20.	C
Q21.	A
Q22.	D
Q23.	A
Q24.	A
Q25.	B