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180961/170961

6th Sem / Elect
Subject:- Electrical Energy Conservation
and Management

Time : 3Hrs.

M.M. : 100

SECTION-A

Note: Multiple choice questions. All questions are compulsory (10x1=10)

- Q.1 The unit of illumination is _____
a) lux b) luminaire
c) Lumens d) None of above
- Q.2 Sodium vapour lamp are not used in indoor application because they
a) Have poor energy efficiency
b) Have poor colour rendering index
c) Occupy a plenty of space
d) Have low lumens output
- Q.3 The ratio of overall maximum demand of the plant to the sum of individual maximum demand of various equipment is _____
a) Load factor b) demand factor
c) diversity factor d) Maximum demand
- Q.4 Lower power factor of DG set demands _____
a) Higher excitation current
b) Lower excitation current
c) No change in excitation
d) None of the above

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- Q.5 Which of the following is not included in the objectives of BIS?
a) Market involvement of firms
b) Standardization
c) Marking
d) Quality certification
- Q.6 Standard efficient motor can be replaced by energy efficient motor to reduce _____
a) Initial cost b) running cost
c) Capital cost d) Life cycle cost
- Q.7 The voltage drop in transmission and distribution line depends on
a) Reactance and resistance
b) Current in the line
c) Length of the line
d) All of the above
- Q.8 Maximum demand controller is used to
a) Switch-off non essential load
b) Switch off essential load
c) Controls the power factor of plant
d) All of the above
- Q.9 The refrigerant used in vapour absorption system is
a) Steam b) Pure water
c) Freon d) Lithium bromide
- Q.10 The efficiency of a pump does not depends on
a) Suction load b) Discharge head
c) Density of fluid d) Motor efficiency

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SECTION-B

Note: Objective type questions. All questions are compulsory. (10x1=10)

- Q.11 1 MJ = _____ KWH
- Q.12 The installed capacity of the plant is generally _____ than the maximum demand on the plant.
- Q.13 The ratio of actual energy produce to the maximum possible energy that could have beed produced during a period is called _____ (Plant capacity factor / diversity factor)
- Q.14 The full form of ECBC is _____
- Q.15 In Haryana, ECBC was Implemented in (2016/2017)
- Q.16 Load factor is always _____ than one. (Less/More)
- Q.17 _____ lamp is the least expensive to but are the most expensive to operate (Incandescent lamp/LED)
- Q.18 Define transformer loading.
- Q.19 What are the different type of electrical power supply system?
- Q.20 What is tariff?

SECTION-C

Note: Short answer type questions. Attempt any twelve questions out of fifteen questions. (12x5=60)

- Q.21 Explain any five difference between filament lamp and Fluorescent tubes.
- Q.22 Define energy management and what are its objectives?
- Q.23 Explain the difference between walk through audit and detailed audit.

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- Q.24 What is the effect of efficiency of three phase I.M. when voltage wave form is different from sinusoidal.
- Q.25 What are the feature of energy efficient motor?
- Q.26 Draw the single line diagram of Electrical supply system and explain it.
- Q.27 Explain the advantages of power factor improvement.
- Q.28 What are benefits involved for ECBC?
- Q.29 What is fuel and explain the properties of ideal fuel.
- Q.30 What are the objectives of ECBC.
- Q.31 Explain the Suction load, Maximum demand and Contract demand?
- Q.32 What are the energy saving tips in room air conditioners?
- Q.33 Why variables torque load offers Greatest energy saving? Explain electronics method of speed control.
- Q.34 Explain the energy audit procedure by flow chart.
- Q.35 What is LED? Explain its working principle.

SECTION-D

Note: Long answer type questions. Attempt any two questions out of three questions. (2x10=20)

- Q.36 What is BEE star rating? Explain how to decide BEE star rating.
- Q.37 What are energy saving opportunities in a compressed air system.
- Q.38 What aspects are required to be considered while designing energy efficient motors?

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