

Power Plant Engineering

1. Seeding material commonly used in MHD generator is

- (a) sodium.
- (b) aluminum.
- (c) potassium.
- (d) cesium.

Answer: (c) potassium.

2. Which of the following liquid metal is not used as an MHD working fluid ?

- (a) Potassium.
- (b) Sodium
- (c) Lithium
- (d) all of the above

Answer: (b) Sodium

3. The exhaust from an MHD generator is at a temperature of about

- (a) 800°C
- (b) 2,200°C

(c) 3,500°C

(d) 1,200°C

Answer: (b) 2,200°C

4. In an MHD generator the ionization potential of the seeding material should be

(a) very high.

(b) the lowest possible.

(c) neither high or low.

(d) either high or low.

Answer: (b) the lowest possible.

5. An MHD system for efficient operation needs

(a) a magnet capable of producing high magnetic flux density.

(b) injection and recovery of seed material

(c) arrangement for superheating of air.

(d) all of the above.

Answer: (d) all of the above.

6. The advantage(s) of an MHD system is/are

(a) low pollution.

- (b) good efficiency.
- (c) conservation of fuel.
- (d) absence of moving parts.
- (e) all of the above.

Answer: (e) all of the above.

7. The concept of MHD generation depends much more on the.....of the gas in the duct.

- (a) permeability
- (b) permittivity
- (c) conductivity
- (d) none of these

Answer: (c) conductivity

8. The materials used for electrodes in thermoelectric generators are

- (a) metal conductors.
- (b) carbon.
- (c) semiconductors.
- (d) insulators.

Answer: (c) semiconductors.

9. Thermionic convertor utilizes

- (a) Seebeck effect.
- (b) thermionic emission effect.
- (c) Peltier effect.
- (d) Thomson effect.

Answer: (b) thermionic emission effect.

10. The solar or photovoltaic cell converts

- (a) chemical energy into electrical energy.
- (b) solar radiations into electrical energy.
- (c) solar radiations into thermal energy.
- (d) thermal energy into electrical energy.

Answer: (b) solar radiations into electrical energy.

11. Photovoltaic solar energy conversion system makes use of

- (a) solar pond.
- (b) fuel cell.
- (c) Edison cell.
- (d) none of the above.

Answer: (a) solar pond.

12. The efficiency of solar cell is about

- (a) 25%
- (b) 15%
- (c) 40%
- (d) 60%

Answer: (b) 15%

13. Solar cells are made of

- (a) aluminum.
- (b) germanium.
- (c) silicon.
- (d) cadmium.

Answer: (c) silicon.

14. The voltage of a solar cell is

- (a) 0.5 - 1 V
- (b) 1 - 2 V
- (c) 2 - 3 V
- (d) 4 - 5 V

Answer: (a) 0.5 - 1 V

15. The output of a solar cell is of the order of

- (a) 0.5 W
- (b) 1.0 W
- (c) 5.0 W
- (d) 10.0 W

Answer: (b) 1.0 W

16. Solar cells, for power generation, have the main drawback(s) of

- (a) low efficiency.
- (b) lack of availability.
- (c) high cost and maintenance problems.
- (d) all of the above.

Answer: (c) high cost and maintenance problems.

17. A module is a

- (a) series-arrangement of solar cells.
- (b) parallel arrangement of solar cells.
- (c) series parallel arrangement of solar cells.
- (d) none of the above.

Answer: (c) series parallel arrangement of solar cells.

18. For satellites the source of energy is

- (a) solar cell.
- (b) fuel cell.
- (c) Edison cell.
- (d) cryogenic storage.

Answer: (a) solar cell.

19. Fuel cells have conversion efficiencies of about

- (a) 25%
- (b) 40%
- (c) 65%
- (d) 85%

Answer: (c) 65%

20. Fuel cell converts chemical energy into

- (a) heat energy.
- (b) low-voltage direct current electrical energy.
- (c) low-voltage alternating current electrical energy.
- (d) mechanical energy.

Answer: (b) low-voltage direct current electrical energy.

21. Fuel cells for power generation have the drawbacks of

- (a) very high development costs.
- (b) low service life and low voltage.
- (c) noise, pollution and maintenance problems.
- (d) both (a) or (b).

Answer: (d) both (a) or (b).

22. The disadvantage(s) of renewable sources of energy is/are

- (a) intermittency.
- (b) lack of dependability.
- (c) availability in low energy densities.
- (d) all of the above.

Answer: (d) all of the above.

23. Biogas consists of

- (a) only methane.
- (b) methane and carbon dioxide with some impurities.
- (c) only ethane.
- (d) a special organic gas.

Answer: (b) methane and carbon dioxide with some impurities.

24. The main source(s) of production of biogas is /are

- (a) wet cow dung.
- (b) human waste.
- (c) wet livestock waste.
- (d) all of the above.

Answer: (d) all of the above.

25. The main by-product of the biogas plant is

- (a) biomass.
- (b) biogas.
- (c) organic manure.
- (d) none of the above.

Answer: (c) organic manure.

26. Biogas plants are suitable for

- (a) metallurgical industries.
- (b) commercial complexes.
- (c) rural areas.
- (d) coal mines.

Answer: (c) rural areas.

27. The energy radiated by Sun on a bright sunny day is about

(a) 2.5 kW/m²

(b) 1.0 kW/m²

(c) 500 W/m²

(d) 200 W/m²

Answer: (b) 1.0 kW/m²

28. Most of solar radiations received on earth surface are within the range of

(a) 0.25 - 0.4 micron.

(b) 0.4 - 0.8 micron.

(c) 0.6 - 0.95 micron.

(d) 0.1 - 0.25 micron.

Answer: (a) 0.25 - 0.4 micron.

29. Which of the following area is preferred for solar plants ?

(a) Coastal areas.

(b) Hot arid zones.

(c) Mountain tops.

(d) High rainfall zones.

Answer: (b) Hot arid zones.

30. In solar power plants the solar heat is transferred to

(a) molten salts.

(b) liquid metals.

(c) water steam.

(d) any of the above.

Answer: (d) any of the above.

31. Main applications of solar energy may be considered as

(a) direct thermal applications.

(b) fuel from biomass.

(c) solar-electric applications.

(d) all of the above.

Answer: (d) all of the above.

32. Insulation is referred to as

(a) diffuse radiations received at any time.

(b) direct radiations received at any time.

(c) both of the above.

(d) none of the above.

Answer: (c) both of the above.

33. Solar thermal power generation can be had by using

(a) flat plate collectors.

(b) focusing or concentrating collectors.

(c) solar ponds.

(d) any of the above.

Answer: (d) any of the above.

34. The function of a solar collector is of converting solar energy into

(a) radiations.

(b) electrical energy directly.

(c) thermal energy.

(d) any of the above.

Answer: (c) thermal energy.

35. In a solar collector, the transparent cover is provided to

(a) protect the collector from dust.

(b) reduce the heat losses from collector beneath to atmosphere.

(c) transmit solar radiation only .

(d) all of the above.

Answer: (d) all of the above.

36. Flat plate collector

(a) has plate blackened in order to absorb maximum amount of direct radiations.

(b) is placed at a proper inclination to the Sun so as to absorb solar radiations.

(c) is mainly used for water heating, space-heating, and drying.

(d) all of the above.

Answer: (d) all of the above.

37. The flat plate collector gives a

(a) temperature of about 90°C with an efficiency of 30 - 35%.

(b) temperature of about 120°C with an efficiency of 45%.

(c) temperature of about 150°C with an efficiency of 52% .

(d) none of the above.

Answer: (a) temperature of about 90°C with an efficiency of 30 - 35%.

38. Temperature attained by cylindrical parabolic collector is of the order of

- (a) 50 - 100°C
- (b) 100 - 150°C
- (c) 150 - 200°C
- (d) 200 - 300°C and above.

Answer: (d) 200 - 300°C and above.

39. Reflector mirrors employed for exploiting solar energy are called the

- (a) mantle.
- (b) heliostats.
- (c) diffusers.
- (d) ponds.

Answer: (b) heliostats.

40. Sun tracking is required in case of

- (a) cylindrical parabolic and paraboloid.
- (b) flat plate collector.
- (c) both (a) and (b).
- (d) none of the above.

Answer: (a) cylindrical parabolic and paraboloid.

41. A pyrometer can be used for measurement of

- (a) diffuse radiations only.
- (b) direct radiations only.
- (c) both, direct as well as diffuse radiations.
- (d) none of the above.

Answer: (c) both, direct as well as diffuse radiations.

42. Wind as a source of power

- (a) is non-steady and unreliable.
- (b) does not possess the basic requirements of any energy source.
- (c) is plentiful, inexhaustible, renewable and non-polluting.
- (d) all of the above.

Answer: (d) all of the above.

44. The drawback(s) of wind power plant is/are

- (a) unreliability and non-steadiness.
- (b) unwieldy size, high structural area and quite large finance requirements.
- (c) output voltage and frequency fluctuations.

(d) all of the above.

Answer: (d) all of the above.

45. Maximum wind energy available is proportional to

(a) air density.

(b) cube of the wind velocity.

(c) square of the rotor diameter.

(d) all of the above.

Answer: (d) all of the above.

46. Under favorable conditions, use of wind power for.....is possible.

(a) small sized plants

(b) medium sized plants

(c) large scale generation

(d) (a) or (b).

Answer: (d) (a) or (b).

47. Tidal power schemes, could not be found economically justified because of

(a) high cost of civil engineering works.

(b) non-availability of tidal energy in India.

(c) both (a) and (b).

Answer: (a) high cost of civil engineering works.

48. Tidal energy utilizes

(a) kinetic energy of water.

(b) potential energy of water.

(c) both potential as well as kinetic energy of water.

(d) none of the above.

Answer: (b) potential energy of water.

49. The turbine normally employed in tidal power plants is

(a) simple impulse type.

(b) propeller type.

(c) reaction type.

(d) reversible type.

Answer: (d) reversible type.

50. A tidal power plant is installed in India near

(a) Bay of Bengal.

(b) Visakhapatnam.

(c) Goa.

(d) Gulf of Cambay.

Answer: (d) Gulf of Cambay.

51. Geothermal energy is

(a) inexhaustible energy source.

(b) a renewable energy source.

(c) alternative energy source.

(d) all of the above.

Answer: (d) all of the above.

52. A geothermal field may yield

(a) dry steam.

(b) wet steam.

(c) hot water.

(d) all of the above.

Answer: (d) all of the above.

53. Geothermal steam and hot water may contain

(a) NH_3

(b) CO_2

(c) H_2S

(d) H₂S, CO₂, NH₃ and random gas.

Answer: (d) H₂S, CO₂, NH₃ and random gas.

54. When geothermal energy is available in the form of saline water, power is developed using

(a) binary cycle system.

(b) flashed-steam system.

(c) total flow system.

(d) any of the above.

Answer: (d) any of the above.

55. In hydrothermal source of geothermal energy

(a) hot water or steam is available.

(b) molten lava is available.

(c) hot gases are available.

(d) all of the above.

Answer: (a) hot water or steam is available.

56. A potential geothermal source region should have

(a) low thermal gradient.

(b) high thermal gradient.

(c) high thermal conductivity.

(d) none of the above.

Answer: (b) high thermal gradient.

57. In hydrothermal systems when steam, water and dissolved solids are available as source of energy, the entrained solid are removed by

(a) strainers.

(b) centrifugal separators.

(c) filters.

(d) any of the above.

Answer: (b) centrifugal separators.

58. In comparison to conventional steam power plants geothermal power plants have

(a) lower load factor.

(b) the same load factor.

(c) higher load factor.

(d) unpredictable.

Answer: (c) higher load factor.

59. Presence of sand in geo-pressured water is likely to cause

- (a) erosion problem.
- (b) water circulation problem.
- (c) heat exchange problem.
- (d) none of the above.

Answer: (a) erosion problem.

60. Presence of non-condensable gases in geo-pressured water causes

- (a) pollution problem.
- (b) corrosion problem.
- (c) flow problem.
- (d) all of the above.

Answer: (d) all of the above.

61. Petrothermal systems are composed of hot dry rock with

- (a) petrochemicals.
- (b) no underground water.
- (c) large underground water.
- (d) dense gases.

Answer: (b) no underground water.

62. In petrothermal systems of geothermal energy having hot dry rock but no underground water, the energy is obtained by

- (a) creating water wells.
- (b) circulating compressed air.
- (c) pumping water.
- (d) any of the above.

Answer: (c) pumping water.

63. In geothermal power plants waste water is

- (a) discharged back to earth.
- (b) discharged into sea.
- (c) re-circulated after cooling in cooling towers.
- (d) evaporated in ponds.

Answer: (a) discharged back to earth.

64. In a fuel cell cathode is of

- (a) oxygen.
- (b) ammonia.
- (c) hydrogen.
- (d) carbon monoxide.

Answer: (c) hydrogen.

65. In a fuel cell electrical energy is produced by

- (a) reaction of hydrogen with oxygen.
- (b) thermionic action.
- (c) combustion of fuel in absence of oxygen.
- (d) any of the above.

Answer: (a) reaction of hydrogen with oxygen.

66. Direct conversion of heat energy into electrical energy is possible through

- (a) MHD generators.
- (b) thermionic converters.
- (c) fuel or solar cell.
- (d) both (a) and (b).

Answer: (d) both (a) and (b).

67. Which of the following power plants can generate power at unpredictable or uncontrollable time ?

- (a) Tidal power plant.
- (b) Wind power plant.
- (c) Solar power plant.

(d) Any of the above.

Answer: (d) Any of the above.

68. For under water movement of a submarine the power is provided by

(a) tidal energy.

(b) MHD generator.

(c) batteries.

(d) diesel engine.

(e) thermionic generator.

Answer: (c) batteries.

69. The power station that does not require any moving part is

(a) Thermionic convertor.

(b) Wind power generation.

(c) Tidal power plant.

(d) Solar power generation.

Answer: (a) Thermionic convertor.

70. A generating station which has a high investment cost and low operating cost is usually operated as a

(a) peak load station.

- (b) base load station.
- (e) medium load station.
- (d) None of the above.

Answer: (b) base load station.

71. Which of the following power plants normally operates at high speeds ?

- (a) Hydroelectric.
- (b) Steam-turbine.
- (c) Petrol engine.
- (d) Diesel engine.

Answer: (b) Steam-turbine.

72. Which of the following power plants is free from environmental problems ?

- (a) Diesel engine.
- (b) Nuclear.
- (c) Hydroelectric.
- (d) Steam.

Answer: (c) Hydroelectric.

73. Which power plant cannot have single unit of 100 MW capacity ?

- (a) Steam power plant.
- (b) Nuclear power plant.
- (c) Hydroelectric power plant.
- (d) Diesel engine power plant.

Answer: (d) Diesel engine power plant.

74. Which of the following plants will take least time in starting from cold conditions to full-load operation ?

- (a) Nuclear power plant.
- (b) Steam power plant.
- (c) Hydroelectric plant.
- (d) Gas turbine plant

Answer: (c) Hydroelectric plant.

75. Which of the following generating plants has the minimum operating cost ?

- (a) Steam plant.
- (b) Hydroelectric plant.
- (c) Nuclear plant.
- (d) Diesel plant.

Answer: (b) Hydroelectric plant.

76. Which of the following plants has the maximum capital cost ?

- (a) Steam plants.
- (b) Hydro-plants.
- (c) Diesel plants.
- (d) Nuclear plants.

Answer: (d) Nuclear plants.

77. In a steam power plant, which of its following components needs maximum maintenance attention ?

- (a) Condenser.
- (b) Boiler.
- (c) Steam turbine.
- (d) Superheater.

Answer: (b) Boiler.

78. A steam power plant is being supplied with coal having much more ash content than that for which it was designed. Which of its following units needs major modifications ?

- (a) Ash handling unit.

(b) Pulverizing unit.

(c) Condenser.

(d) Cooling towers.

Answer: (a) Ash handling unit.

79. A diesel power plant is generally used as a /an

(a) base load plant.

(b) peak load plant.

(c) stand by plant/emergency plant.

(d) any of the above.

Answer: (c) standby plant/emergency plant.

80. A gas turbine power plant is best suited for

(a) base loads.

(b) peak loads.

(c) emergency.

(d) none of the above.

Answer: (b) peak loads.

81. For the same cylinder dimensions and same rpm, which of the following engines will produce least power ?

- (a) Petrol engine.
- (b) Diesel engine.
- (c) Supercharged engine.

Answer: (a) Petrol engine.

82. Ships are usually supplied power by

- (a) steam accumulators.
- (b) hydraulic turbine.
- (c) diesel engines.
- (d) none of the above.

Answer: (c) diesel engines.

83. Gas turbine power plants for maximum efficiency may have

- (a) heat exchangers.
- (b) multistage compression.
- (c) reheating.
- (d) all of the above.

Answer: (d) all of the above.

84. Air will not be the working substance in a

- (a) closed cycle gas turbine.
- (b) open cycle gas turbine.
- (c) petrol engine.
- (d) diesel engine.

Answer: (a) closed cycle gas turbine.

85. Which of the following plants can never have 100 percent load factor ?

- (a) Nuclear power plant.
- (b) Hydroelectric power plant.
- (c) Base load plant.
- (d) Peak load plant.

Answer: (d) Peak load plant.

86. Which of the following power plants needs highly skilled/qualified engineers for its operation ?

- (a) Hydro.
- (b) Steam.
- (c) Nuclear.
- (d) Gas turbine.

Answer: (c) Nuclear.

87. Which of the following power plants will take long period in erection and installation ?

- (a) Steam.
- (b) Hydro.
- (c) Nuclear.
- (d) Gas-turbine.

Answer: (b) Hydro.

88. Major share of power generated in India is through

- (a) hydroelectric power plants.
- (b) nuclear power plants.
- (c) thermal power plants.
- (d) gas turbine power plants.

Answer: (c) thermal power plants.

89. When a 'pumped storage' power plant is operated in conjunction with a steam power plant

- (a) The operating cost of the steam plant becomes optimum.
- (b) Load factor of the steam plant is increased.

(c) Chances of the tripping of the system decrease because of the use of two heterogeneous types of plants.

(d) Operation of the storage plant in the pumping-mode during the low-load period improves the steam-plant stability.

Answer: (b) Load factor of the steam plant is increased.

90. Out of the following plant categories

(i) Nuclear

(ii) Run-off-river

(iii) Pump Storage

(iv) Diesel

Answer:

The base load power plants are

(a) (i) and (ii).

(b) (ii) and (iii).

(c) (i), (ii) and (iv).

(d) (i), (iii) and (iv).

Answer: (a) (i) and (ii).

91. The essential requirement(s) for power plants to be operated as base load plants is /are

- (a) low operating cost.
- (b) capability of operating continuously for long periods.
- (c) requirement of few operating personnel and economical repair.
- (d) all of the above.

Answer: (d) all of the above.

92. The generating station suitable to operate as peak load plant is

- (a) Thermal power station.
- (b) Nuclear power station.
- (c) Pumped storage power station.
- (d) none of these.

Answer: (c) Pumped storage power station.

93. Which of the following power stations is mainly used to cover peak load on the system?

- (a) Coal based thermal power plant.
- (b) Nuclear power plant.
- (c) Gas based thermal power plant.
- (d) Pumped storage hydropower plant.

Answer: (d) Pumped storage hydropower plant.

94. The essential requirement(s) for power plants to be operated as peak load plants are

(a) capability of quick start, synchronization and taking up of system load.

(b) quick response to load variations.

(c) low capital cost.

(d) all of the above.

Answer: (d) all of the above.

95. Efficiency is of little importance in case of

(a) base load power plants.

(b) peak load plants.

(c) standby plants.

(d) both (b) and (c).

Answer: (d) both (b) and (c).

96. The annual cost of generating station can be expressed in the form of Rs $(A + B \times kW + C \times kWh)$ where A, B, C are constants and kW and kWh represent capacity of the station and energy generated per year respectively. The choice between the "base-load station" and the "peak-load station" basically depends on the fact that

(a) factor B should be less for the peak-load station and factor C should be less for the base-load station.

(b) factor C should be less for the peak-load station and factor B should be less for the base load station.

(c) the factors B and C should both be less for the base-load station.

(d) the factors B and C should both be less for the peak-load station.

Answer: (a) factor B should be less for the peak-load station and factor C should be less for the base-load station.

97. Which of the following are the advantages of interconnected operation of power systems ?

1. Less reserve capacity requirement.

2. More reliability.

3. High power factor.

4. Reduction in short-circuit level.

Select the correct answer using the codas giver below:

(a) 1 and 2.

(b) 2 and 3.

(c) 3 and 4.

(d) 1 and 4.

Answer: (a) 1 and 2.

98. Interconnected systems have the advantage(s) of

(a) reduced reserve plant capacity, capital cost per kW and economy in operation.

(b) improved load factor, diversity factor and operation efficiency and increased reliability of supply.

(c) all of the above.

(d) none of the above.

Answer: (c) all of the above.

99. An interconnected system has the following power plants

1. Nuclear, 2. Steam, 3. Diesel, 4. Gas turbine, 5. Hydro with storage, 6. Run-off the river, 7. Pumped storage.

Which of the above three power plants are used exclusively for supplying peak loads ?

(a) 1, 2, 3

(b) 3, 4, 7

(c) 4, 5, 6

(d) 2, 3, 5

Answer: (b) 3, 4, 7

100. Which two of the power plants mentioned in above question are used exclusively for supplying base load ?

(a) 1, 5

(b) 1, 2

(c) 1, 6

(d) 4, 6

Answer: (c) 1, 6

101. In a moderate size steam power station, electrical power is generated at

(a) 440 V

(b) 1.1 kV

(c) 11 kV

(d) 33 kV

Answer: (c) 11 kV

102. If two synchronous generators are connected, loss of synchronism will result in

- (a) stalling of generators.
- (b) wild fluctuations in current.
- (c) wild fluctuations in current and voltage.
- (d) none of the above.

Answer: (a) stalling of generators.

103. A large synchronous generator is feeding power into an infinite bus at slightly lagging power factor. If a total loss of field occurs and the system can supply sufficient reactive power without a large terminal voltage drop, the unit will

- (a) continue to run as a synchronous generator and no tripping is necessary.
- (b) get short-circuited and it should be tripped instantaneously.
- (c) run as an induction generator and it should be tripped after a time delay.
- (d) run as a synchronous motor and it should be tripped after a time delay.

Answer: (c) run as an induction generator and it should be tripped after a time delay.

104. Unit of regulation of speed governor is

- (a) Hz/MW
- (b) MW/Hz
- (c) Unit less
- (d) km/sec

Answer: (a) Hz/MW

105. Three identical generators supply power in a system having lossless transmission lines. Generator 1 is equipped with a speed governor that maintains its speed constant at the rated value while generators 2 and 3 have governors with droops of 5% and 4% respectively. For a given increase in system load in the steady state

- (a) Generators 1, 2, 3 will share the increased load in the ratio of 0 : 5 : 4.
- (b) Generators 1, 2, 3 will share the increased load equally.
- (c) Generators 1, 2, 3 will share the increased load in the ratio of 0 : 4 : 5.
- (d) Generator 1 will alone take the entire increased load and the output of generators 2 and will remain unchanged.

Answer: (d) Generator 1 will alone take the entire increased load and the output of generators 2 and will remain unchanged.

106. For stable operation of interconnected system, the passive element that can be used as the interconnecting element is

- (a) reactor.
- (b) resistor.
- (c) capacitor.
- (d) resistor and capacitor.

Answer: (a) reactor.

107. To meet the reactive power requirements at load centers usually

- (a) shunt capacitors are used.
- (b) series capacitors are used.
- (c) tap changing transformers are used.
- (d) shunt reactors are used.

Answer: (a) shunt capacitors are used.

108. A power system needs injection of VARs at

- (a) off-peak load.
- (b) peak load.
- (c) both peak and off-peak load.
- (d) full load.

Answer: (c) both peak and off-peak load.

109. The injection of VARs is required to

- (a) compensate for line losses.
- (b) get a good voltage profile.
- (c) increase the voltage at the receiving end.
- (d) all of the above.

Answer: (b) get a good voltage profile.

110. Shunt capacitors in a substation

- (a) consume lagging VARs.
- (b) deliver lagging VARs.
- (c) consume active power.
- (d) deliver active power.

Answer: (b) deliver lagging VARs.

111. The principle of incremental costs is employed for deciding the

- (a) sequence of adding units.
- (b) load allocation between units in operation.
- (c) total plant capacity to be operated.

(d) all of the above.

Answer: (b) load allocation between units in operation.

112. For a thermal power plant the input output characteristic is given by $Q = 8 + P + 0.08 P^2$ where Q and P are heat input and power output, respectively in MW. The maximum thermal efficiency would be

(a) 26.5%

(b) 30.5%

(c) 34.5%

(d) 38.5%

Answer: (b) 30.5%

113. For economy measure the generators at a power plant operate at

(a) equal loads.

(b) load proportional to the ratings.

(c) equal incremental cost.

Answer: (c) equal incremental cost.

114. Two generating plants feed a load centre through a transmission network. For maximum economy

- (a) the incremental cost of power supplied at the load centre should be the same for both the plants.
- (b) the incremental fuel cost should be the same for both the plants.
- (c) the more efficient plant should share more load.
- (d) none of the above.

Answer: (a) the incremental cost of power supplied at the load centre should be the same for both the plants.

115. In the optimum generator scheduling different power plants, the minimum fuel cost is obtained when

- (a) only the incremental fuel cost of each plant is the same.
- (b) the penalty factor of each plant is the same.
- (c) the ratio of the incremental fuel cost to the penalty factor of each plant is the same.
- (d) the incremental fuel cost of each plant multiplied by its penalty factor is the same.

Answer: (d) the incremental fuel cost of each plant multiplied by its penalty factor is the same.

116. If the generating station is situated very close to the load centre, the penalty factor for this unit is

- (a) zero.
- (b) almost unity.
- (c) negative.
- (d) very high.

Answer: (b) almost unity.

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