Q NO	Q=QUESTION	question_description	question_explanation	question_type	question_difficulty	Module
	A=ANSWER	answer_description	answer_explanation	answer_isright	answer_position	
1	Q	Primary sources of energy are those which are not found in _____				
	A	nature		0		
	A	Sky		0		
	A	Mines		1		
	A	Water		0		
2	Q	Solar power are categorised under the _____sources of energy				
	A	Renewable source of energy		1		
	A	non renewable		0		
	A	primary		0		
	A	secondary		0		
3	Q	Which of the following is not a renewable source of energy?				
	A	Wind power		0		
	A	coal power		1		
	A	Solar		0		
	A	Hydal		0		
4	Q	Cycle in which steam engine works___				
	A	Otto cycle		0		
	A	Carnot Cycle		0		
	A	dual cycle		0		
	A	Modified Rankine cycle		1		
5	Q	Minimum fuel is required in				
	A	Thermal power plant		0		
	A	Nuclear power plant		1		
	A	Hydro electric power plant		0		
	A	Diesel power plant		0		
6	Q	Disadvantage of most of the renewable energy sources?				
	A	Highly polluting		0		
	A	High waste disposal cost		0		
	A	Unreliable supply		1		
	A	High running cost		0		
7	Q	In order to produce electricity,fuel cell burns:				
	A	Helium		0		
	A	Nitrogen		0		
	A	Hydrogen		1		
	A	Oxygen		0		
8	Q	Constant Volume process is				
	A	Isothermal		0		
	A	Isobaric		0		
	A	Isochoric		1		

MODULE 1

	A	Adiabatic		0	
9	Q	Water at standard atmospheric conditions			
	A	Behaves as an ideal gas		1	
	A	Is mostly liquid		0	
	A	Is far above its critical state		0	
	A	Is far below its critical state		0	
10	Q	Superheated vapour behaves.....			
	A	Exactly as gas		0	
	A	As steam		0	
	A	As ordinary vapour		0	
	A	Approximatly as a gas		1	
11	Q	The unit of pressure in S.I. unit is.....			
	A	kg/cm^2		0	
	A	mm of water column		0	
	A	Pascal		1	
	A	Bars		0	
12	Q	No liquid can exist as liquid at.....			
	A	2730 K		0	
	A	Vacuum		0	
	A	Zero pressure		0	
	A	Center of earth		1	
13	Q	Which of the following laws is not applicable for the behaviour of perfect gas			
	A	Boyle's law		0	
	A	Charle's law		0	
	A	Gas-Lussac law		0	
	A	Avagadro's Law		1	
14	Q	The efficiency of carnot cycle may be increased by.....			
	A	Increasing the highest temperature		0	
	A	Decreasing the highest temperature		1	
	A	Increasing the lowest temperature		0	
	A	Decreasing the lowest temperature		0	
15	Q	Binary vapour cycles are used to.....			
	A	Increase the performance of the condenser		0	
	A	Increase the efficiency of the plant		1	
	A	Increase the efficiency of the plant		0	
	A	Increase the performance of the pump		0	
16	Q	The commercial sources of energy are			
	A	solar, wind and biomass		0	
	A	wood, animal wastes and agriculture wastes		0	
	A	fossil fuels, hydropower		1	
	A	nuclear enrgy		0	
17	Q	Purpose of surge tank			

	A	remove friction		0	
	A	prevent turbulence		0	
	A	prevent flow loss		0	
	A	relieve pressure due to water hammer		1	
18	Q	Water hammer is developed in			
	A	penstock		1	
	A	draft tube		0	
	A	turbine		0	
	A	surge tank		0	
19	Q	Impulse turbine work on			
	A	Newton's I law		0	
	A	Newton's II law		1	
	A	Newton's III law		0	
	A	Conservation of mass		0	
20	Q	Curve between power generated and time is			
	A	load curve		1	
	A	load duration curve		0	
	A	mass flow curve		0	
	A	demand curve		0	
21	Q	The ratio of maximum load to rated plant capacity			
	A	load factor		0	
	A	utilization factor		1	
	A	maximum load factor		0	
	A	capacity factor		0	
22	Q	Capacity of HEPP in service in excess the peakload is			
	A	Operating reserve		0	
	A	spinning reserve		0	
	A	peak reserve		0	
	A	cold reserve		1	
23	Q	Turbine converts			
	A	mechanical to hydraulic energy		0	
	A	hydraulic to mechanical energy		1	
	A	electrcial to mechanical energy		0	
	A	mechanical to electric energy		0	
24	Q	Operating charges for same power output are minimum for			
	A	gas turbine power plant		0	
	A	hydroelectric power plant		1	
	A	thermal plant		0	
	A	nuclear plant		0	
25	Q	Load centre in HEPP is			
	A	centre of coal fields		0	
	A	centre of maximum load of equipments		0	
	A	centre of gravity of electrical load		1	

	A	centre of power station		0	
26	Q	The turbine of same shape will have same			
	A	thomas number		0	
	A	reynolds number		0	
	A	specific speed		1	
	A	rotational speed		0	
27	Q	Which statement about hydroelectric power plant is wrong?			
	A	Efficiency of hydroelectric power plant does not reduce with age		0	
	A	Its construction coast is very high and takes a long time for erection.		0	
	A	It is very neat and clean plant because no smoke or ash is produced.		0	
	A	Meeting rapidly changing load demands is not possible in hydroelectric power plant.		1	
28	Q	Which source of energy is HEPP?			
	A	Non-renewable source of energy		0	
	A	Conventional source of energy		1	
	A	Non-conventional source of energy		0	
	A	Continuous source of energy		0	
29	Q	Cavitation does not occur in			
	A	Francis		0	
	A	Piston wheel		0	
	A	Pelton		1	
	A	Centrifugal pump		0	
30	Q	Which of the following is not an advantage of hydroelectric power plant?			
	A	no fuel requirement		0	
	A	low running cost		0	
	A	continuous power source		1	
	A	no standby losses		0	
31	Q	Which turbines is mostly horizontal			
	A	Pelton		1	
	A	Francis		0	
	A	Kaplan		0	
	A	Propeller		0	
32	Q	The annual depriciation of a hydro power plant is about			
	A	0.5% to 1.5%		1	
	A	10% to 15%		0	
	A	15% to 20%		0	
	A	20% to 25%		0	
33	Q	Which one of the following pairs of materials is used as moderator in nuclear reactors?			

	A	Heavy water and zirconium		0	
	A	Zorconium and beryllium		0	
	A	Cadmium and beryllium		0	
	A	Beryllium and heavy water		1	
34	Q	The energy relased during the fission of one atom of U-235 in millions electron volts is about			
	A	100		0	
	A	200		1	
	A	300		0	
	A	400		0	
35	Q	The most commonly used moderator in nuclear power plants is			
	A	heavy water		1	
	A	concrete and bricks		0	
	A	steel		0	
	A	graphite		0	
36	Q	Shielding in nuclear reactor is generally done to protect against			
	A	neutron and gamma rays		1	
	A	excess electrons		0	
	A	X-rays		0	
	A	alpha and beta rays		0	
37	Q	In CANDU type nuclear reactor			
	A	natural uranium is used as fuel and water as moderator		0	
	A	natural uranium is used as fuel and heavy water as moderator		1	
	A	enriched uranium is used as fuel and water as moderator		0	
	A	enriched uranium is used as fuel and heavy water as moderator		0	
38	Q	A nuclear unitr becoming critical means			
	A	It is generating power to rated capacity		0	
	A	It is capable of generating power much more than rated		0	
	A	There is danger of nuclear spread		0	
	A	Chain recation that causes automatic spiltting of fuel nuclei has been established		1	
39	Q	What is the function of heavy water in nuclear reactor?			
	A	It serves as coolant		0	

	A	It serves as moderator		0	
	A	It serves as coolant as well as moderator		1	
	A	It serves as neutron absorber		0	
40	Q	A nuclear fission is initiated when the critical energy as compared to neutron binding energy atoms is			
	A	less		0	
	A	same		0	
	A	more		1	
	A	exactly two times		0	
41	Q	Uranium 238 is represented by 92U238. What does it imply?			
	A	It has 92 protons and 146 neutrons		1	
	A	It has 146 protons and 92 electrons		0	
	A	It has 92 protons and 238 neutrons		0	
	A	It has 92 neutrons and 238 protons		0	
42	Q	Who invented radioactivity?			
	A	Madam Curie		0	
	A	Pierre Curie		0	
	A	Henry Beckrel		1	
	A	J thomson		0	
43	Q	What is the part in radioactivity process?			
	A	Electron		0	
	A	proton		0	
	A	Nucleus		1	
	A	Neutron		0	
44	Q	Charge in alpha particles is			
	A	positive		1	
	A	negative		0	
	A	neutral		0	
	A	positive & negative		0	
45	Q	Negative charge particles are			
	A	alpha		0	
	A	beta		1	
	A	gamms		0	
	A	proton		0	
46	Q	Moderator should have			
	A	Low boiling point		0	
	A	High viscosity		0	
	A	High specific heat capacity		1	
	A	Costly		0	
47	Q	Full Form of MOX is			
	A	Most oxide fuel		0	
	A	Metal obsess fuel		0	
	A	Metal oxide fuel		1	

	A	Metal oxide filament		0	
48	Q	Which is not isotope of uranium			
	A	U 158		1	
	A	U 232		0	
	A	U 235		0	
	A	U 238		0	
49	Q	What does the chronological load curve indicate?			
	A	Variation of demand from instant to instant during 24 hours.		1	
	A	Variation in demand factor during 24 hours.		0	
	A	The total energy consumed upto different times of the day.		0	
	A	The total number of hours for which a particular load lasts during the day		0	
50	Q	What is the diversity factor?			
	A	A ratio of kWh generated to the product of plant capacity and the number of hours for which the plant is in operation.		0	
	A	The ratio of sum of individual maximum demands to the maximum demand on power stations.		1	
	A	The ratio of actual energy produced to the maximum possible energy.		0	
	A	The ratio of maximum demand on the power station to the connected load		0	
51	Q	What is the shape of the load duration curve?			
	A	Triangular shape.		0	
	A	Parabolic shape.		0	
	A	sinusoid curve		0	
	A	Rectangular shape.		1	
52	Q	Hear rate is _____.			
	A	1-(output energy / Input energy)		0	
	A	1- (Input energy / output energy)		0	
	A	Input energy / output energy		1	
	A	output energy / Input energy		0	
53	Q	For a power plant which is employing two generators A and B which of the following statement is true?			
	A	Economical load sharing of these two generators,the incremental rate of both generators must be equal.		1	
	A	Economical load sharing of these two generators,the incremental rate of both generators must be zero.		0	

	A	Economical load sharing of these two generators,the incremental rate of generator A must be greater than generator B.		0		
	A	Economical load sharing of these two generators,the incremental rate of generator B must be greater than generator A.		0		
54	Q	Block rate tariff, where energy charge decreases with the increase in energy consumption,				
	A	Discourages the consumers for more consumption.		0		
	A	Encourages the consumers for more consumption.		1		
	A	Encourages the consumers to restrict their deman		0		
	A	Encourages the consumers to improve the power factor.		0		
55	Q	Why is Maximum demand tariff not applicable to domestic consumers?				
	A	Low load factor		0		
	A	Lower energy consumption		0		
	A	Low maximum demand		1		
	A	Low power factor		0		
56	Q	Size and cost of installation depends upon _____				
	A	average load		0		
	A	maximum demand		1		
	A	square mean load		0		
	A	square of peak load		0		
57	Q	Cakculte the energy generated per year in kWh for the power plant with following details. annual load factor = 0.4 , Installed capacity = 200 MW, Capital cost of plant = Rs. 280 Lac, Annual expenses = Rs. 60 Lac, Interest and depreciation rate = 13% of capital cost, Assume no of hours in a year = 8760 hrs				**MODULE 6**
	A	6582*10^5		0		
	A	6985*10^5		0		
	A	7010*10^5		0		
	A	7008*10^5		1		
58	Q	Determine total annual cost (Rs.) of water softening plant from the following data. Cost = Rs. 2.56*10^5 , Salvage value = 6% , Life = 10yrs , annual cost of chemicals = Rs. 15000 , Annual repair cost = Rs. 10000 , Labour cost per month = Rs. 3000, Rate of interest by sinking fund method = 11%, Salvage value = Rs. 15360.				

	A	72390.6		0	
	A	75390.6		1	
	A	74390.6		0	
	A	73390.6		0	
59	Q	Maximum load on certain power plant is 375 MW, Calculate the plant load factor. where t is time duration in hours from 0 to 24 hrs. Daily load in power plant is given as L = 350 + 10*t - t^2, where Lod in MW.			
	A	0.5413		0	
	A	0.6413		0	
	A	0.7413		1	
	A	0.8413		0	
60	Q	Incremental cost of diesel generating station is givens below, dFa / dFb = 0.065Pa + 25 and dFb / dPb = 0.08 Pb +20 where F is the fuel cost in Rupees/hr, P is the poweroutput in MW. (i) Economic load division amongst this plants is 160 MW . (ii) loss in fuel cost for plant A if both units are equally loaded in Rs/hr.			
	A	Pa = 53.79 MW, Pb = 106.21 MW , Rs. 769.21/hr		1	
	A	Pa = 43.79 MW, Pb = 107.21 MW , Rs.769.21/hr		0	
	A	Pa = 43.79 MW, Pb = 106.21 MW , Rs. 769.21/hr		0	
	A	Pa = 63.79 MW, Pb = 106.21 MW , Rs. 769.21/hr		0	
61	Q	If the average load is 9000 kW in a year(8760 hours) ,what will be the energy generated in one year?			
	A	1000kWh		0	
	A	25.5 x 10^5 kWh		0	
	A	78.84 x 10^6 kWh		1	
	A	200000kWh		0	
62	Q	If the annual load factor is 0.4 and installed capacity is 200 MW..Find the average load.			
	A	20 x 10^3 kW		0	
	A	40 x 10^3 kW		0	
	A	60x 10^3 kW		0	
	A	80 x 10^3 kW		1	
63	Q	What is the advantage of sectionalizing of power plant?			
	A	High reliability		1	
	A	Low capital cost		0	
	A	Low maintenance		0	
	A	Easy operation		0	
64	Q	During which time the demand of electrical energy is maximum?			

	A	a) 2 A.M. to 5 A.M.		0	
	A	b) 5 A.M. to 12 P.M.		0	
	A	c) 12 P.M. to 7 P.M.		0	
	A	d) 7 P.M. to 9 P.M		1	
65	Q	Which of the following represents the annual average load?			
	A	a) (KWh supplied in a day)/24		0	
	A	b) {(KWh supplied in a day)/ 24 } × 365		0	
	A	c) {(KWh supplied in a month)/(30 x 24)		0	
	A	d) (KWh supplied in a year) / (24 × 365)		1	
66	Q	By using combined cycle steam and gas power plant _____			
	A	specific fuel consumption can be decreased		0	
	A	efficiency increased		0	
	A	specific fuel consumption can be decreased and efficiency increased		1	
	A	efficiency decreased		0	
67	Q	specific fuel consumption can be decreased and efficiency increased			
	A	Heat energy		0	
	A	Sound energy		0	
	A	Electricity		1	
	A	Thermal energy		0	
68	Q	What kind of a process does a 'Steam Power Plant' undergoes?			
	A	Adiabatic		0	
	A	Cyclic		1	
	A	Irreversible		0	
	A	Expansion		0	
69	Q	Shaft work is fed to _____ for getting an electrical output.			
	A	Motor		0	
	A	Generator		1	
	A	Rotor		0	
	A	Accelerator		0	
70	Q	What are the components of a Steam Power Plant?			
	A	Evaporator, Condenser, Boiler, Expansion valve		0	
	A	Evaporator, Condenser, Boiler, Turbine		0	
	A	Boiler, Turbine, Condenser, Pump		1	
	A	Boiler, Turbine, Pump, Expansion valve		0	

71	Q	Which of these is a 'working fluid' in liquid phase in steam power plants?				
	A	Water		1		
	A	Steam		0		
	A	Mercury		0		
	A	Oxygen		0		
72	Q	Which part of thermal power plant causes maximum energy losses?				
	A	Boiler		0		
	A	Alternator		0		
	A	Condenser		1		
	A	Ash and unburnt carbon		0		
73	Q	Overall efficiency of thermal power plant is equal to _____				
	A	Thermal efficiency		0		
	A	Generation efficiency		0		
	A	Multiplication of thermal and generation efficiency		1		
	A	Ratio of thermal and generation efficiency		0		
74	Q	Large amount of coal is transported by _____				
	A	railway		1		**Module 3**
	A	sea or river ways		0		
	A	road transportation		0		
	A	by airlifting		0		
75	Q	The coal is fed to the furnace through _____				
	A	conveyor belt		0		
	A	hopper		1		
	A	wagon tipper		0		
	A	crane		0		
76	Q	A fluidised bed is efined as the bed of _____particles behaving as a fluid.				
	A	solid		1		
	A	liquid		0		
	A	gas		0		
	A	coal		0		
77	Q	Ash needs to be quenched before handling because				
	A	It reduces corrosion action of the gas.		1		
	A	It increases temperture of the ash.		0		
	A	to form clinkers		0		

	A	to increase the dust accompanying the ash		0	
78	Q	The size of the dust particles is measured in			
	A	metres		0	
	A	microns		1	
	A	milimetres		0	
	A	decimetres		0	
79	Q	Which of the following is not a type of Fire Tube Boilers?			
	A	Conchran		0	
	A	Lanchashire		0	
	A	Locomotive		0	
	A	Bbcok and Wilcox		1	
80	Q	Which of the following are the most widely used condensers in modern thermal power plants?			
	A	Surface condensers		1	
	A	Low level counter flow type jet condenser		0	
	A	High level counter flow type jet condenser		0	
	A	Parallel flow type jet condenser		0	
81	Q	Which of the following is a part of air and fuel gas circuit?			
	A	Condenser		0	
	A	Economiser		0	
	A	Air preheater		1	
	A	Cooling tower		0	
82	Q	What is the use of baffles in the gravitational separators?			
	A	To separate types of dust		0	
	A	To settle the dust by letting them to strike		1	
	A	To control the flow of dust particles		0	
	A	To blow the dust		0	
83	Q	What is the air standard cycle for a Gas-Turbine called?			
	A	Reheat cycle		0	
	A	Rankine cycle		0	
	A	Brayton cycle		1	
	A	Diesel cycle		0	
84	Q	What is the difference between a Rankine cycle & a Brayton cycle?			
	A	working fluid in a Brayton cycle undergoes phase change while it doesn't in Rankine cy		0	
	A	working fluid in a Brayton cycle doesn't undergo phase change while it does in Rankine		1	

	A	both the cycles are same		0	
	A	rankine cycle is a cycle between liquid and vapour whereas brayton cycle is a vapour cycle		0	
85	Q	Which among these is the main component of a gas turbine plant?			
	A	Condenser		0	
	A	Compressor		1	
	A	Boiler		0	
	A	Evaporator		0	
86	Q	The gas turbine power plant mainly uses which among the following fuels?			
	A	Coal and Peat		0	
	A	Kerosene oil and diesel oil and residual oil		0	
	A	Gas oil		0	
	A	Natural gas and liquid petroleum fuel		1	
87	Q	6. The ratio of heat actually released by 1kg of fuel to heat that would be released by complete perfect combustion is called _____			
	A	Thermal efficiency		0	
	A	Combustion efficiency		1	
	A	Engine efficiency		0	
	A	Compression efficiency		0	
88	Q	In gas turbine, intercooler is placed _____			
	A	before low pressure compressor		0	
	A	in between low pressure compressor and high pressure compressor		1	
	A	in between high pressure compressor and turbine		0	
	A	between comustion chamber and turbine		0	
89	Q	2. In gas turbine, what is the function of Re-heater?			
	A	Heat inlet air		0	
	A	Heat exhaust gases		0	
	A	Heat air coming out of compressor		0	
	A	Heat gases coming out of high pressure turbine		1	
90	Q	In the _____ heat transfer takes place between the exhaust gases and cool air.			
	A	Intercooler		0	
	A	Re-heater		0	
	A	Regenerator		1	
	A	Compressor		0	

91	Q	Gas and Steam turbine combined power plant produces more electricity than traditional power plants by how much percent?			
	A	25		0	
	A	40		0	
	A	50		1	
	A	The given statement was false		0	
92	Q	By using combined cycle steam and gas power plant _____			
	A	specific fuel consumption can be decreased		0	
	A	efficiency increased		0	
	A	specific fuel consumption can be decreased and efficiency increased		1	
	A	less power is consumed		0	
93	Q	In Fluidised bed the particle size are_____			
	A	Usually Equal		1	
	A	Necessarily equal		0	
	A	Range of varying sizes		0	
	A	Identical		0	
94	Q	Which of the following is not a major application of gas turbine ?			
	A	Aviation		0	
	A	Oil and Gas Industry		0	
	A	Marine Propulsion		0	
	A	Steam production		1	
95	Q	**Gas turbines for power generation are normally used**			
	A	To supply base load requirements		0	
	A	To supply peak load requirements		1	
	A	To enable start thermal power plant		0	
	A	In emergency		0	
96	Q	5. The ratio of specific weight/h.p. of gas turbine and I.C engines may be typically of the order of			
	A	01:01		0	
	A	02:01		0	
	A	04:01		0	
	A	01:06		1	
97	Q	6. The ideal efficiency of simple gas turbine cycle depends on			

Module 4

	A	Pressure ratio		1	
	A	Maximum cycle temperature		0	
	A	Minimum cycle temperature		0	
	A	Work ratio		0	
98	Q	The thermal efficiency of a simple gas turbine for a given turbine inlet temperature with increase in pressure ratio			
	A	Increases		1	
	A	Decreases		0	
	A	First increases and then decreases(D) First decr		0	
	A	First decreases and the increases		0	
99	Q	In multistage compressor, the isothermal compression is achieved by			
	A	Employing inter-cooler		0	
	A	By constantly cooling the cylinder		0	
	A	By running compressor at very slow speed		1	
	A	By insulating the cylinder		0	
100	Q	Combination of two or more thermodynamic processes gives _____			
	A	decrease in efficiency		0	
	A	increase in efficiency		1	
	A	increases the temperature at exhaust		0	
	A	decreases temperature at exhaust		0	