	UNIT I	
Question	A steam power plant using Rankine cycle generated steam at 10 bar and 380^{O}C. Condensation occurs at 0.06 bar. Find out turbine work. GIVEN DATA h1=151.5 KJ/kg, h3=3222 KJ/kg, hfg4=2416 KJ/kg, h4=2279.9 KJ/kg, x4=0.881	2
Option A	942 KJ/kg	
Option B	1050 KJ/kg	
Option C	980 KJ/kg	
Option D	1090 KJ/kg	
Answer	A	
Question	A steam power plant using Rankine cycle generated steam at 10 bar and 380^{O}C. Condensation occurs at 0.06 bar. Find out Heat supplied. GIVEN DATA h1=151.5 KJ/kg, h3=3222 KJ/kg, hfg4=2416 KJ/kg, h4=2279.9 KJ/kg, x4=0.881	2
Option A	136 KJ/kg	
Option B	942 KJ/kg	
Option C	3070 KJ/kg	
Option D	1050 KJ/kg	
Answer	C	
Question	In a reheat cycle the steam is supplied at 50 bar & 400 OC to the high pressure turbine and after expansion upto 12 bar pressure, steam is reheated at constant pressure upto 380 OC in a reheater further expanding in low pressure turbine upto pressure 0.1 bar. Find net work done if pump work is 5 kJ/kg & h1 = 191.8 kJ/kg, h2= 196.8 kJ/kg, h3= 3198 kJ/kg, h4= 2850 kJ/kg, h5= 3225 Kj/kg, h6= 2325kJ/kg & 1 kg of steam flow.	3
Option A	348 Kj/kg	
Option B	1243 kJ/kg	
Option C	900 kJ/kg	
Option D	3376 kJ/kg	
Answer	B	
Question	In a reheat cycle the steam is supplied at 50 bar & 400 OC to the high pressure turbine and after expansion upto 12 bar pressure, steam is reheated at constant pressure upto 380 OC in a reheater further expanding in low pressure turbine upto pressure 0.1 bar. Find steam rate if pump work is 5 kJ/kg & h1 = 191.8 kJ/kg, h2= 196.8 kJ/kg, h3= 3198 kJ/kg, h4= 2850 kJ/kg, h5= 3225 Kj/kg, h6= 2325kJ/kg & 1 kg of steam flow.	3
Option A	2.896 kg/kWh	
Option B	4.567 kg/kWh	
Option C	5.269 kg/kWh	
Option D	6.111 kg/kWh	
Answer	A	
Question	The Bhopal gas tragedy was caused due to —	1
Option A	Radioactive poisoning	
Option B	Nitrous oxide leakage	
Option C	Methyl isocyanate (MIC) gas leakage	
Option D	Acid rain	
Answer	C	
Question	The Kyoto Protocol was adopted at the —	1
Option A	United Nations Framework Convention on Climate Change (UNFCCC) in 1992	
Option B	Convention on Biological Diversity	
Option C	Convention on the Trans-boundary Effects of Industrial Accidents	
Option D	Third Conference of the UNFCC in 1997	
Answer	D	

Question	The process of converting coal into coke is called ___	1
Option A	Coking	
Option B	Carbonization	
Option C	Decarbonization	
Option D	Isomerization	
Answer	B	
Question	Only bituminous type of coal can be coked.	1
Option A	a) True	
Option B	b) False	
Answer	A	
Question	When coal burns in air then	1
Option A	Carbon dioxide is formed	
Option B	Sulphur dioxide is formed	
Option C	Carbon monoxide is formed	
Option D	Hydrogen gas is formed	
Answer	A	
Question	The Chevron Corporation had to pay a huge fine for oil pollution in the —	1
Option A	Equadorian rainforest	
Option B	Savannah grasslands	
Option C	Brazilian rainforest	
Option D	Amazon basin	
Answer	A	
Question	What are cascades?	1
Option A	They are the one step separation processes	
Option B	They are the last part of separation processes	
Option C	They are an aggregation of stages	
Option D	They are the starting part of every separation process	
Answer	C	
Question	Countercurrent cascades are not prevalent in which process?	1
Option A	Crystallization	
Option B	Distillation	
Option C	Stripping	
Option D	Liquid-liquid extraction	
Answer	A	
Question	Caking coal with _____ content are used for gas manufacturer.	1
Option A	high volatile matter	
Option B	low volatile matter	
Option C	high ash content	
Option D	high moisture content	
Answer	A	
Question	In which state does the pulverised coal burns?	1
Option A	a) Gaseous	
Option B	b) Liquid	
Option C	c) Solid	

Option D	d) Colloidal	
Answer	A	
Question	PCRA stands for	2
Option A	a. Public Conservations Research Association	
Option B	b. Petroleum Conservation Research Association	
Option C	c. Public Council of Research Association	
Option D	d. Partial Counting of remaining Amendment	
Answer	B	
Question	On what factors does the burning of pulverised coal depends?	1
Option A	a) The calorific value of fuel	
Option B	b) Bulk density	
Option C	c) Percentage of volatile matter	
Option D	d) On the texture of coal	
Answer	C	
Question	How is the sizing of coal processed?	1
Option A	a) By the use of measuring instruments	
Option B	b) By the use of computer software	
Option C	c) By crushing and screening	
Option D	d) By the mass of the coal	
Answer	C	
Question	Which of the following is a disadvantage of storing coal for a long period of time?	1
Option A	a) Increase in the friability of coal	
Option B	b) Decrease in its ignition temperature	
Option C	c) Increase in its calorific value	
Option D	d) Increase in the proportion of fine	
Answer	D	
Question	54.The reheating of steam is used when the vaporization pressure is ____.	1
Option A	a) low	
Option B	b) high	
Option C	c) both when low or high	
Option D	d) always	
Answer	B	
Question	Deaerator is a type of open heater.	1
Option A	a) true	
Option B	b) false	
Answer	A	
Question	Froth flotation process is used for _____	1
Option A	a) Screening of coal	
Option B	b) Beneficiation of coal	
Option C	c) Dewatering of coal	
Option D	d) Mining of coal	
Answer	B	
Question	What is the main purpose for a blending of coal?	1
Option A	To produce more amount of coal	
Option B	To produce good quality of coal	
Option C	To decrease the cost of coal	

Option D	To produce different types of coal at same time	
Answer	B	
		1
Question	How do the chances of spontaneous combustion of coal can decrease?	
Option A	Decrease in the maturity of coal	
Option B	By washing the coal time to time	
Option C	Increase in the maturity of coal	
Option D	By the reducing the quantity of coal	
Answer	C	
Question	Which processes do the Rankine cycle contain?	2
Option A	two isothermal and two isochoric processes	
Option B	two isentropic and two isobaric processes	
Option C	two isentropic and two isothermal processes	
Option D	two isothermal and two isobaric processes	
Answer	B	
Question	Which ideal process is carried out at the turbine in vapour power cycle?	1
Option A	reversible adiabatic compression	
Option B	reversible adiabatic expansion	
Option C	reversible constant pressure heat addition	
Option D	reversible constant pressure heat rejection	
Answer	B	
Question	Which is the affecting factor for the fact that turbine work output is more than pump work input in vapour power cycle for the same pressure ration?	2
Option A	specific heat added to the working fluid	
Option B	specific volume of working fluid	
Option C	both a. and b.	
Option D	none of the above	
Answer	B	
Question	Which of the following statement is true?	2
Option A	open heater is also known as contact-type heater	
Option B	in an open type heater the extracted or bled steam is allowed to mix with the feedwater	
Option C	in a closed heater, the fluids are not allowed to mix together	
Option D	all of the mentioned	
Answer	D	
Question	.Which of the following is true for a closed heater?	1
Option A	a) it requires a single pump regardless of the number of heaters	
Option B	b) it is costly	
Option C	c) both of the mentioned	
Option D	d) none of the mentioned	
Answer	C	
Question	The thermal irreversibility should be ____ to improve the performance.	1
Option A	a) reduced	
Option B	b) increased	
Option C	c) kept constant	
Option D	d) none of the mentioned	
Answer	A	

	UNIT II	
Question	A vaccum of 710 mm of Hg was obtained with barometer reading of 755 mm of Hg. Correct the vaccum to standard barometer of 760 mm.	2
Option A	720 mm of Hg	
Option B	715 mm of Hg	
Option C	755 mm of Hg	
Option D	745 mm of Hg	
Answer	B	
Question	A vaccum of 710 mm of Hg was obtained with barometer reading of 755 mm of Hg. The temperature ofcondenser was 25^{o}C. Determine the pressure of air in the condenser in bar. partial pressure of steam at 25^{o}C is 0.03166 bar.	3
Option A	0.03255 bar	
Option B	0.02585 bar	
Option C	0.03532 bar	
Option D	0.02832 bar	
Answer	D	
Question	The actual vacuum in a condenser is	1
Option A	Barometric pressure+ Actual pressure	
Option B	Gauge pressure—atmospheric pressure	
Option C	Gauge pressure + atmospheric pressure	
Option D	None	
Answer	B	
Question	The condenser in a steam power plant is placed between the	1
Option A	Boiler and turbine	
Option B	Pump and the boiler	
Option C	Turbine and the pump	
Option D	None	
Answer	C	
Question	How many number of spray nozzle does each module on spray pond cooling system contains?	1
Option A	1	
Option B	2	
Option C	3	
Option D	4	
Answer	D	
Question	Select the disadvantage of cooling pond out of the given?	2
Option A	The area required of cooling in a cooling pond is small	
Option B	Spray losses due to evaporation and windage run high	
Option C	There is no control over the temperature of cooled water	
Option D	The cooling efficiency is low compared with cooling water	
Answer	C	

Question	How is air produced in mechanical draught cooling tower?	1
Option A	Air Tuyeres	
Option B	Propeller fans	
Option C	Air blowers	
Option D	Louvre	
Answer	B	
Question	In which type of cooling system are nozzles arranged on different elevation?	1
Option A	Single deck system	
Option B	Double deck system	
Option C	Natural Flow system	
Option D	Direct flow system	
Answer	B	
Question	Pressure in the condenser of a steam plant is	1
Option A	More than atmospheric	
Option B	Equal to atmospheric	
Option C	Less than atmospheric	
Option D	None	
Answer	C	
Question	Surface condensers and jet condensers of the same cooling capacity are compared	1
Option A	Overall size is bigger of the surface condenser	
Option B	Sizes are equal	
Option C	Size of the surface condenser is smaller than the jet condenser	
Option D	None	
Answer	A	
Question	Pressure in the condenser of a steam plant is	1
Option A	More than atmospheric	
Option B	Equal to atmospheric	
Option C	Less than atmospheric	
Option D	None	
Answer	C	
Question	Condensate can be used as feed water in a	1
Option A	Jet condenser	
Option B	Surface condenser	
Option C	Both in Jet and Surface condenser	
Option D	None	
Answer	B	
Question	Surface condenser is one in which	1
Option A	Steam passes through the tubes and the water is outside	
Option B	Air passes through the tubes and the water is outside	
Option C	Water passes through the tubes and the steam is outside	
Option D	None	
Answer	C	

Question	The ratio of actual vacuum to the ideal vacuum in a condenser is called	1
Option A	Boiler efficiency	
Option B	Condenser efficiency	
Option C	Vacuum efficiency’	
Option D	None	
Answer	C	
Question	The condenser used in thermal power plant is	1
Option A	Air cooled	
Option B	Water Cooled	
Option C	Evaporative Cooled	
Option D	None	
Answer	C	
Question	What is use of the air pumps in the condenser?	1
Option A	Remove water	
Option B	Air leaking in the condenser and to maintain the vacuum.	
Option C	Maintain atmospheric pressure and the condenser.	
Option D	Both (a) & (b).	
Answer	B	
Question	Evaporative type of condenser has	
Option A	Water in pipes surrounded by steam outside.	2
Option B	Steam and cooling water mixed to give the condensate.	
Option C	Steam in pipes surrounded by water.	
Option D	None of the above.	
Answer	c	
Question	What are used in the direct flow system to transverse the pond before uniting at intake?	1
Option A	Separators	
Option B	Filters	
Option C	Baffle walls	
Option D	Porous pipes	
Answer	C	
Question	In which system is Cooling of hot water is done on tray as step by?	1
Option A	Mechanical draught cooling system	
Option B	Hyperbolic cooling tower	
Option C	Atmospheric cooling tower	
Option D	Wet cooling tower	
Answer	C	
Question	.How does the flow of air occur in natural draught cooling towers?	2
Option A	Natural pressure head density between cold outside air and humid inside air	
Option B	Variation in pressure of both cold outside air and humid inside air	
Option C	Due to the given air vents and vacuum ports	
Option D	Because of difference in the volume of both the of airs	
Answer	A	
Question	Centrifugal pump is a_____	1
Option A	Turbomachinery	

Option B	Flow regulating device	
Option C	Drafting device	
Option D	Intercooling device	
Answer	A	
		1
Question	The main function of nozzle is to _____	
Option A	Varying temperatures	
Option B	Pressure variations	
Option C	Load variations	
Option D	Heat variations	
Answer	B	
Question	Centrifugal pumps are a sub class of dynamic axisymmetric work absorbing turbomachinery.	1
Option A	TRUE	
Option B	FALSE	
Answer		
Question	What is the most effective advantage of gravitational separators?	1
Option A	They consume no power	
Option B	They just need small amount of space for operation	
Option C	They are cost effective	
Option D	Time taken for operation is very less	
Answer	C	
Question	Which principle does cyclone separator use?	1
Option A	Gravitational force	
Option B	\ Vortex velocity	
Option C	Inertia	
Option D	Temperatures of air	
Answer	C	
Question	What is called when several cyclone separators are operated parallely?	1
Option A	Octa-cyclone	
Option B	Multi-cyclone	
Option C	Center-cyclone	
Option D	Para-cyclone	
Answer	B	
Question	What is the work of the baghouse filter?	2
Option A	To remove the hot air from furnace	
Option B	To separate the solid particles from dust produced	
Option C	To remove dust particles from flue gas	
Option D	To wash away the contamination of dust on the walls of furnace	
Answer	C	
Question	A ‘stroker’ is a power operated fuel ___ mechanism	1
Option A	Burning	
Option B	Feeding	
Option C	Handling	

Option D	Storage	
Answer	B	
Question	The following is not a pulverized fuel burner.	1
Option A	Tangential burner	
Option B	Turbulent burner	
Option C	Cyclone burner	
Option D	Radial burner	
Answer	B	

	UNIT III	
Question	Which of the following is not a requirement for site selection of hydroelectric power plant?	1
Option A	Availability of water	
Option B	Large catchment area	
Option C	Rocky land	
Option D	Sedimentation	
Answer	D	
Question	The amount of electrical energy that can be generated by a hydroelectric power plant depends upon	2
Option A	Head of water	
Option B	Quantity of water	
Option C	Specific weight of water	
Option D	Efficiency of Alternator	
Answer	B	
Question	Potential energy of water is used to drive the turbine.	1
Option A	True	
Option B	False	
Answer	B	
Question	Hydroelectric power plant is	2
Option A	Non-renewable source of energy	
Option B	Conventional source of energy	
Option C	Non-conventional source of energy	
Option D	Continuous source of energy	
Answer	B	
Question	Hydroelectric power plant is generally located near load centre.	1
Option A	True	
Option B	False	
Answer	B	
Question	Hydroelectric power plant is mainly located in	1
Option A	Flat areas	
Option B	Deserts	
Option C	Hilly areas	
Option D	Deltas	
Answer	C	
		2
Question	Which statement about hydroelectric power plant is wrong?	
Option A	Efficiency of hydroelectric power plant does not reduce with age	
Option B	Its construction coast is very high and takes a long time for erection.	
Option C	It is very neat and clean plant because no smoke or ash is produced.	
Option D	Meeting rapidly changing load demands is not possible in hydroelectric power plant.	
Answer	D	
Question	Which of the following is not an advantage of hydroelectric power plant?	2
Option A	no fuel requirement	
Option B	low running cost	
Option C	continuous power source	
Option D	no standby losses	
Answer	C	
Question	Which of the following statement is true about hydroelectric power plant?	1
Option A	Hydroelectric power plants are multipurpose.	

Option B	Due to non-uniform flow of water frequency control in such plants is very difficult.	
Option C	Hydroelectric power plant has high running cost	
Option D	Water is used as fuel in hydroelectric power plant	
Answer	A	
Question	Which element of hydroelectric power plant prevents the penstock from water hammer phenomenon?	2
Option A	Valves and Gates	
Option B	Draft tubes	
Option C	Spillway	
Option D	Surge Tank	
Answer	D	
Question	Dam having very wide base as compared to its height is called	1
Option A	buttress dam	
Option B	arch dam	
Option C	earth dam	
Option D	solid gravity dam	
Answer	C	
Question	Spillway discharges the overflow water to the downstream side when the reservoir is full.	1
Option A	True	
Option B	False	
Answer	A	
Question	Trash racks are built for	2
Option A	discharging the water freely from the turbine exit to tailrace	
Option B	preventing the turbine from ingress of floating and other materials	
Option C	creating artificial head to store sufficient potential energy of water	
Option D	controlling the opening of valves	
Answer	B	
Question	Penstock in a hydroelectric power plant is	2
Option A	a pipe connected to runner outlet	
Option B	nozzle that release high pressure water on turbine blades	
Option C	a conduit connecting forebay to scroll case of turbine	
Option D	a pipe connecting surge tank to dam	
Answer	C	
Question	The pressure at the inlet or exit of the draft tube should not be	2
Option A	less than one third of atmospheric pressure	
Option B	greater than one third of atmospheric pressure	
Option C	less than one atmospheric pressure	
Option D	greater than one atmospheric pressure	
Answer	A	
Question	Draft tube increases the operating head on the turbine.	1
Option A	True	
Option B	False	
Answer	A	
Question	Which statement about surge tank is wrong?	2
Option A	Ideal location of surge tank is at the turbine inlet	
Option B	A decrease in load demands cause a rise in water level in surge tank	
Option C	Surge tanks are totally closed to avoid entry of unwanted objects to penstock	

Option D	Surge tanks are installed to reduce harm effects of water hammer phenomenon	
Answer	C	
Question	Trash racks are located	1
Option A	near tailrace	
Option B	at the entrance of turbine	
Option C	inside penstock	
Option D	intake	
Answer	D	
Question	What is the function of booms?	1
Option A	It supports the dam	
Option B	It supports the penstock	
Option C	It divert the Icebergs from flowing into the penstock	
Option D	To hold the turbine structure	
Answer	A	
Question	Pelton turbines are used for	2
Option A	medium head applications	
Option B	low head applications	
Option C	in steam power plants	
Option D	for high head applications	
Answer	D	
Question	Operating head of Francis turbine is	3
Option A	less than 30	
Option B	less than 70 m	
Option C	30 to 200 m	
Option D	more than 200 m	
Answer	C	
Question	Governing mechanism used in case of Pelton wheel turbine is	1
Option A	guide vane	
Option B	nozzle needle	
Option C	control valve	
Option D	dam gates	
Answer	B	
		1
Question	Which turbine has highest speed?	
Option A	Pelton wheel turbine	
Option B	Francis turbine	
Option C	Impulse turbine	
Option D	Kaplan turbine	
Answer	D	
Question	Why has nuclear energy become an inevitable option for the development of the country?	2
Option A	Because less pollution caused by nuclear plant	
Option B	High efficiency of nuclear energy	
Option C	Due to acute shortage of other sources of energy	
Option D	High cost of energy production of other sources	
Answer	C	
Question	How much amount of nuclear energy burnt is equivalent to the energy produced by 3000 tonnes of coal?	3
Option A	1kg	
Option B	5kg	
Option C	15kg	

Option D	20kg	
Answer	A	
Question	What is the most attractive part of nuclear energy?	1
Option A	Supports countries development	
Option B	Causes no pollution	
Option C	Has high efficiency of energy production	
Option D	Is available in abundance	
Answer	B	
Question	Nucleus consists of two sub-particles known as?	2
Option A	Nucleotides	
Option B	Nucleons	
Option C	Neutrons	
Option D	Nucleosides	
Answer	B	
Question	On which law is the nuclear energy explained?	2
Option A	Einstein’s law	
Option B	Newton’s law	
Option C	Rutherford law	
Option D	Mendeleev law	
Answer	A	
Question	Number of protons in the nucleus is called	1
Option A	Atomic number	
Option B	Mass number	
Option C	Electric charge	
Option D	Periodic number	
Answer	A	
Question	The total number of nucleons in the nucleus is called	1
Option A	Atomic number	
Option B	Mass number	
Option C	Electric charge	
Option D	Periodic number	
Answer	B	
Question	In which of the following process are Neutrons emitted?	1
Option A	Inverse beta Decay	
Option B	Nuclear fission	
Option C	Spontaneous Fission	
Option D	Nuclear fusion	
Answer	B	
Question	Why neutrons with lower energy should be capable of causing fission?	2
Option A	For faster reaction process	
Option B	For sustained reaction process	
Option C	For Safety purpose	
Option D	In order to not waste the nuclear fuel	
Answer	B	
Question	What happens when a neutron is absorbed by a nucleus of an atom of U235?	3
Option A	Mass number of atom increases	
Option B	One electron is let out	
Option C	U236 isotope is formed	
Option D	Nucleus becomes unstable	
Answer	C	

Question	Who invented nuclear fission?	2
Option A	Rutherford	
Option B	Hans Bethe	
Option C	Otto Hahn	
Option D	Marie Curie	
Answer	C	
Question	Most of the energy released in fission process is in process of	1
Option A	Kinetic Energy	
Option B	Thermal Energy	
Option C	Light Energy	
Option D	Heat Energy	
Answer	A	
Question	Combining of two light nuclei of low mass to produce a heavy nucleus is called	2
Option A	Nuclear fusion	
Option B	Nuclear fission	
Option C	Spontaneous fission	
Option D	Double beta decay	
Answer	A	
Question	What type of Reaction takes place in sun?	2
Option A	Nuclear fusion	
Option B	Nuclear fission	
Option C	Spontaneous fission	
Option D	Double beta decay	
Answer	A	
Question	Fusion reactions are called	2
Option A	Thermonuclear	
Option B	Thermoduric	
Option C	Thermo Uric	
Option D	Compound reactions	
Answer	A	
Question	Which of the following element is readily available in the ordinary water?	2
Option A	Cesium	
Option B	Thorium	
Option C	Deuterium	
Option D	Astatine	
Answer	C	
Question	Which nuclear fuel is usually used in thermal nuclear reactor to create fission?	1
Option A	U234	
Option B	U235	
Option C	U236	
Option D	U237	
Answer	B	
Question	Which parts function is to reduce the energy of fast neutrons to thermal neutrons in nuclear power plant?	2
Option A	Moderator	
Option B	Coolant circulator	
Option C	Control rods	
Option D	Shielding	
Answer	A	

Question	What makes the best moderators in nuclear power plant?	
Option A	Material with low atomic number	1
Option B	Materials with low atomic mass	
Option C	Materials with high atomic number	
Option D	Materials with high mass number	
Answer	A	
Question	What is used in nuclear reactor as a cooling method/device?	1
Option A	Coolant	
Option B	Water jackets	
Option C	Air cooler	
Option D	Air vents	
Answer	A	
Question	Control rods are made of _____	2
Option A	Cesium	
Option B	Cadmium	
Option C	Tin	
Option D	Gallium	
Answer	B	
		1
Question	Shield is made of _____	
Option A	Iron Metal enclosure	
Option B	Concrete and water	
Option C	Ceramics walls	
Option D	Copper metal	
Answer	B	
Question	PWR stands for _____	1
Option A	Power	
Option B	Partially weathered rock	
Option C	Pressurized water Reactor	
Option D	Packaging waste regulations	
Answer	C	
Question	LWR stands for _____	1
Option A	Lower water reactor	
Option B	Line water reactor	
Option C	Liquefied water reactor	
Option D	Light water reactor	
Answer	D	
Question	CANDU stands for _____	1
Option A	Canadian Natural Darmstadtium Uranium	
Option B	Canadian Natural Deuterium Uranium	
Option C	Canadian Natural Dubnium Uranium	
Option D	Canadian Natural Dysprosium Uranium	
Answer	B	

	UNIT IV	
Question 1	The components of a diesel power plant are	1
Option A	air intake system	
Option B	exhaust system	
Option C	cooling system	
Option D	fuel supply system	
Option E	all of the above	
Answer	E	
Question 2	Diesel power plants are mainly used for	1
Option A	peak load	
Option B	base load	
Option C	Emergency	
Answer	C	
Question 3	Unit of specific fuel consumption is	1
Option A	kg/h	
Option B	kJ/kg	
Option C	kg/kWh	
Option D	kg/kJ	
Answer	C	
Question 4	In an open cycle gas turbine power plant the gases after exapansion are exhausted at	1
Option A	below atmospheric pressure	
Option B	above atmospheric pressure	
Option C	at atmospheric pressure	
Option D	None of the above	
Answer	B	
Question 5	A gas turbine power plant works on	1
Option A	Rankine cycle	
Option B	Carnot cycle	
Option C	Brayton cycle	
Option D	None of the above	
Answer	C	
Question 6	Efficiency of a GTPP is given by	1
Option A	1-[(Rp)^-(ϒ-1)/ϒ]	
Option B	1 + [(Rp)^-(ϒ-1)/ϒ]	
Option C	1-[(Rp)^-(ϒ)/(ϒ-1)]	
Option D	1-[(Rp)^-ϒ]	
Answer	A	
Question 7	Work ratio is given by, Wt= turbine work, Wc= Compressor work	1
Option A	(Wt-Wc)/Wc	
Option B	(Wt-Wc)/Wt	
Option C	Wt/Wc	

Option D	Wc/Wt	
Answer	B	
Question 8	Relative efficiency of a diesel power plant is given by	1
Option A	Actual thermal effy./ Air standard effy.	
Option B	Mechanical effy./ Air standard effy.	
Option C	Air standard effy./ Actual thermal effy.	
Option D	Air standard effy./ Mechanical effy.	
Answer	A	
Question 9	Isentropic efficiency of turbine is given by	1
Option A	Actual work/ Isentropic work	
Option B	Isentropic work/ Actual work	
Option C	None of the above	
Answer	A	
Question 10	Isentropic efficiency of compressor is given by	1
Option A	Actual work/ Isentropic work	
Option B	Isentropic work/ Actual work	
Option C	None of the above	
Answer	B	
Question 11	Choice of a gas turbine depends most on which of these factors?	1
Option A	Compression ratio	
Option B	Cut-off ratio	
Option C	Pressure ratio	
Option D	none of the mentioned	
Answer	C	
Question 12	Which of the following is not used in gas turbine power plant?	1
Option A	Compressor	
Option B	Turbine	
Option C	Combustion chamber	
Option D	Condenser	
Answer	D	
Question 13	What is intercooling in gas turbine power plant?	1
Option A	Removal of heat from combustion gas between stages of turbine	
Option B	Removal of heat from compressor between stages of compressor	
Option C	Removal of heat from intake air	
Option D	Removal of heat from exhaust air	
Answer	B	
Question 14	The installation time for a gas turbine power plant is _____	1
Option A	Comparatively less than thermal power plant	
Option B	Comparatively more than thermal power plant	
Option C	Equal to thermal power plant	

Option D	Very much longer than thermal power plant	
Answer	A	
Question 15	Which of the following is a type of Gas Turbine Plant?	1
Option A	Single Acting	
Option B	Double Acting	
Option C	Open	
Option D	None of the above	
Answer	C	
Question 16	Gas turbine plants are not used	1
Option A	As peak load plants.	
Option B	As base load plants.	
Option C	As standby power plants.	
Option D	In combination with the steam power plants.	
Answer	A	
Question 17	The compressor has to be started	1
Option A	Before starting the gas turbine.	
Option B	After starting the gas turbine.	
Option C	Simultaneously with starting of gas turbine.	
Option D	At any time during the operation.	
Answer	A	
Question 18	Combined cycle power plants are suitable for?	1
Option A	Base loads.	
Option B	Peak loads.	
Option C	Intermediate loads.	
Option D	Both base and peak loads.	
Answer	D	
Question 19	The heating value of gaseous fuels is about	1
Option A	500 kJ/litre	
Option B	30 kJ/litre	
Option C	100 kJ/litre	
Option D	10 kJ/litre	
Answer	B	
Question 20	In a 4 stroke, 4 cylinder diesel engine, BP=32.5 kW, Mech. Effy.=80%, then IP (kW)is	2
Option A	40.63	
Option B	39.63	
Option C	41.83	
Option D	42.00	
Answer	A	
Question 21	If BSFC=0.25 kg/kWh, ISFC=0.21 kg/kWh, then Mech. Efficiency is	2

Option A	80%	
Option B	82%	
Option C	84%	
Option D	85%	
Answer	C	
Question 22	A GTPP has presssure ratio of 5, inlet temp. of compressor is 27 deg C. The temperature after compression is [take ϒ=1.4]	2
Option A	200 deg C	
Option B	202 deg C	
Option C	205 deg C	
Option D	202.15 deg C	
Answer	D	
Question 23	A GTPP has presssure ratio of 6, inlet temp. to the turbine is 627 deg C. The temperature afterexpansion is [take ϒ=1.4]	2
Option A	539.4 deg C	
Option B	540.4 deg C	
Option C	540 deg C	
Option D	541.4 deg C	
Answer	A	
Question 24	In a GTPP (with usual notations) T1=300 K, T2= 500 K, T3= 1000 K, T4=600 K, take ϒ=1.4. The compressor work is	2
Option A	280 kJ/kg	
Option B	288 kJ/kg	
Option C	270 kJ/kg	
Option D	284 kJ/kg	
Answer	A	
Question 25	In a GTPP (with usual notations) T1=300 K, T2= 500 K, T3= 1000 K, T4=600 K, take ϒ=1.4. The turbine work is	2
Option A	280 kJ/kg	
Option B	388 kJ/kg	
Option C	470 kJ/kg	
Option D	480 kJ/kg	
Answer	D	
Question 26	In a GTPP (with usual notations) T1=300 K, T2= 500 K, T3= 1000 K, T4=600 K, take ϒ=1.4. The heat supplied is	2
Option A	500 kJ/kg	
Option B	480 kJ/kg	
Option C	700 kJ/kg	
Option D	680 kJ/kg	
Answer	C	
Question 27	The following is (are) the limitation(s) of gas turbines.	2
Option A	They are not self-starting	

Option B	Higher rotor speeds	
Option C	Low efficiencies at part loads	
Option D	All of the above	
Answer	D	
Question 28	The intermediate temperature T2 for optimum work of GTPP [T1 is inlet temp. and T3 is maximum temp.]	2
Option A	√(T1*T3)	
Option B	√ (T3/T1)	
Option C	T1*T3	
Option D	T3/T1	
Answer	A	
Question 29	The gas turbine power plant mainly uses which among the following fuels?	2
Option A	Coal and Peat.	
Option B	Kerosene oil and diesel oil and residual oil.	
Option C	Gas oil.	
Option D	Natural gas and liquid petroleum fuel.	
Answer	D	
Question 30	A GTPP operates between temperature limits of T1= 295 K(Inlet temp.), T3=1085 K (max. Temp.) & ϒ=1.4, pressure ratio =9.768. The compressor and turbine work (in kW) are	3
Option A	270, 525.6	
Option B	271, 530.5	
Option C	272.1, 521.8	
Option D	235, 470	
Answer	C	
Question 31	For an inlet temp.at compressor of 305 K, isentropic effy. of compressor of 80 %, pressure ratio of 5 and ϒ= 1.4, the temp. at exit of compressor is	3
Option A	500.6 K	
Option B	550.6 K	
Option C	600.6 K	
Option D	527.6 K	
Answer	D	
Question 32	For an inlet temp.at turbine inlet of 1073 K, isentropic effy. of turbine of 85 %, pressure ratio of 5.9 and ϒ= 1.38, the temp. at exit of turbine is	3
Option A	720.6 K	
Option B	720.4 K	
Option C	702.6 K	
Option D	704.6 K	
Answer	B	

		Unit V
1	**Question**	Wind wind energy is
	Option a	Arises from temperature difference of the earth's surface
	Option b	In which conversion of kinetic energy of wind into mechanical and further into to electricity takes place
	Option c	Wind energy systems are noisy in operation
	Option d	All the above
	Answer	d
2	**Question**	wind turbines are used to convert
	Option a	Wind energy into radiation
	Option b	Kinetic energy of wind into mechanical energy and further in electrical
	Option c	Potential energy to kinetic energy and further electrical
	Option d	None of these
	Answer	b
3	**Question**	Liquid dominated system Geothermal power plant is also known as
	Option a	Dry steam steam geothermal plant
	Option b	Magma resource thermal plant
	Option c	Wet steam system geothermal plant
	Option d	Both a & b
	Answer	c
4	**Question**	The difference between high tide and low tide is known as
	Option a	EBB range
	Option b	Oscan range
	Option c	Tidal range
	Option d	All of these
	Answer	c
5	**Question**	Which of the following is NOT true related to wind energy
	Option a	It is renewable source of energy
	Option b	It is consistent and steady source
	Option c	Non polluting source of energy
	Option d	None of these
	Answer	b
6	**Question**	What is the purpose of cooling tower in Solar thermal plant
	Option a	It cools the steam coming from steam turbine
	Option b	It cool the water coming from condenser for recirculation
	Option c	It condense the water going to boiler
	Option d	None of these
	Answer	b
7	**Question**	India's first Geothermal power plant situated at
	Option a	Jharkhand, Surajkund
	Option b	Chhattisgarh, Raipur
	Option c	Maharashtra, Eklarhare
	Option d	Jammu & Kashmir, Puga
	Answer	b
8	**Question**	Which of the following NOT the type of horizontal axis wind mill
	Option a	Wind mill with two aerodynamic blades

	Option b	Multi blade
	Option c	Dutch type
	Option d	Creep type
	Answer	d
9	**Question**	In the horizontal axis aerodynamic blade wind mill rotor blades are continuously flexed due to
	Option a	Gravitational loads
	Option b	inertia loads
	Option c	Unsteady aerodynamic
	Option d	All of these
	Answer	d
10	**Question**	In horizontal axis aerodynamic blade wind mill components are mounted on bed plate which is attached on _____at the top of the tower.
	Option a	Syntel
	Option b	Nacelle
	Option c	Pintel
	Option d	Shank
	Answer	c
11	**Question**	Which of the following is False related to flat plate solar collector
	Option a	Both direct and diffuse radiation can be absorbed
	Option b	Suitable for heating to temperature below 1000
	Option c	It consists of insulated box, absorber plate and tubes
	Option d	All of these
	Answer	b
12	**Question**	In which of the following higher power coefficient is obtained
	Option a	Rotor with two blades
	Option b	Rotor with three blades
	Option c	Rotor with four blades
	Option d	Rotor with single blades
	Answer	c
13	**Question**	In horizontal axis propeller with single blade wind mill
	Option a	Bending may occurs due to sudden shift in wind direction
	Option b	Counter weight is attached for balancing
	Option c	Single long blade is mounted on hub
	Option d	All the above
	Answer	d
14	**Question**	In wet steam geothermal power plant, the water temperature must be
	Option a	Above the critical temperature
	Option b	Above normal boiling point temperature
	Option c	Below boiling temperature
	Option d	None of these
	Answer	b
15	**Question**	Darrieus rotor type wind mill has
	Option a	Extremely long blades above 60 m
	Option b	Two half cylinder facing opposite direction
	Option c	Curved blades forming cage like structure
	Option d	None of these
	Answer	c

16	**Question**	Horizontal axis multi blase type wind mill having which one of the following characteristic
	Option a	Blades made from metal
	Option b	Have good power coefficient
	Option c	Rotors have high strength to weight ratio
	Option d	All the above
	Answer	d
17	**Question**	Nacelle is
	Option a	Part of wind mill on which all components are mounted at the top of the tower
	Option b	Part which balance the rotor
	Option c	It is a cover housing that houses all generating components
	Option d	All the above
	Answer	c
18	**Question**	Vertical axis wind mill has its blades rotating
	Option a	An axis parallel to the ground
	Option b	An axis perpendicular to the ground
	Option c	An Axis inclined to the ground surface
	Option d	All the above
	Answer	b
19	**Question**	Which of the following is/are types of Vertical axis wind mill
	Option a	Dutch type
	Option b	Sail type
	Option c	Pintle type
	Option d	Savonius type
	Answer	d
20	**Question**	Darrieus type rotor wind mill falls under which type of category of wind mill
	Option a	Horizontal axis wind mill
	Option b	Vertical axis wind mill
	Option c	Permanently Inclined axis wind mill
	Option d	None of these
	Answer	b
21	**Question**	Which of the following is NOT true related to Photovoltic system technology
	Option a	Convert solar radiations directly into electricity by using suitable material
	Option b	It is having mechanical moving part so high maintenance required
	Option c	It is used for small scale to large scale projects
	Option d	In which semiconductor material is used
	Answer	b
22	**Question**	Savonius rotor type wind mill can operates at
	Option a	At highest velocity of wind
	Option b	Relatively at low velocity of wind
	Option c	At any velocity of wind
	Option d	Only at medium range of wind velocity
	Answer	b
23	**Question**	Which material is used in absorber plate of solar power plant
	Option a	Copper
	Option b	Aluminum
	Option c	Steel

	Option d	All of these
	Answer	d
24	**Question**	Which of the following is true related to 'S'- type rotor wind mill
	Option a	It is having only one longer blade
	Option b	It is having two half cylinders facing opposite direction
	Option c	It is having curved blades attached to hub
	Option d	None of these
	Answer	b
25	**Question**	Which of the following is/are advantage/s of Savonius rotor wind mill
	Option a	It can operate at low wind velocity ranges 8 km/hr
	Option b	It has lowest system cost
	Option c	It requires expensive power transmission system
	Option d	Only a & b
	Answer	d
26	**Question**	Identify- 1. It eliminates expensive power transmission system from rotor to the axis 2. It requires low cut in speed 3. It can be operates at low wind velocity range
	Option a	Sail wind mill
	Option b	Single blade horizontal axis type
	Option c	'S' type rotor wind mill
	Option d	Darrieus type
	Answer	c
27	**Question**	_____ is also called as high velocity wind mill
	Option a	Sail wind mill
	Option b	'S' rotor type wind mill
	Option c	Darrieus rotor type wind mill
	Option d	All of these
	Answer	c
28	**Question**	Darrieus rotor wind mill has
	Option a	Small blade area
	Option b	Rapidly rotating propeller
	Option c	Minimum bending stresses in its blades
	Option d	All of these
	Answer	d
29	**Question**	Identify the exact wind mill 1. It can obstruct large area of wind 2. It has a small blade area
	Option a	Darrieus rotor wind mill
	Option b	Savonius rotor wind mill
	Option c	horizontal axis single blade wind mill
	Option d	None of these
	Answer	a
30	**Question**	Wind mills are
	Option a	A machine for wind energy conversion
	Option b	Are present in horizontal axis mill
	Option c	Both a & b

	Option d	None of these
	Answer	c
31	**Question**	Which of the following statement is true related to Darrieus rotor wind mill
	Option a	Darrieus rotor have multiple blades on it's periphery
	Option b	Darrieus rotor have three symmetrical aerofoil blades
	Option c	Both a & b is true
	Option d	Both a & b is false
	Answer	b
32	**Question**	In Darrieus type machines
	Option a	Force in blade is purely tension
	Option b	Force in blade is purely compressive
	Option c	Force in blade is alternately tensile and compressive
	Option d	Purely bending stress produced
	Answer	a
33	**Question**	'Rotor Helicoidal' & Rotor 'H' are the rotor type used in
	Option a	Sail type wind mill
	Option b	Darrieus type wind mill
	Option c	Savonius type wind mill
	Option d	Single blade wind mill
	Answer	b
34	**Question**	Molton rock chamber system in geothermal plant contains maximum temprature
	Option a	Up to 100 degree celcius
	Option b	Below 200
	Option c	More than 650
	Option d	Below 600
	Answer	c
35	**Question**	Wind speed can be measured by
	Option a	Tachometer
	Option b	Anemometer
	Option c	Hexameter
	Option d	All of these
	Answer	b
36	**Question**	Which is true related to wind velocity
	Option a	Wind velocity causes due to movement of air from high pressure to low pressure
	Option b	Wind velocity is due to temperature difference on earth surface
	Option c	Only b is true
	Option d	Both a & b
	Answer	d
37	**Question**	Solar power plant uses which of the following parameters
	Option a	Photovoltaic cell
	Option b	Solar radiations
	Option c	Both are true
	Option d	None of these
	Answer	c
38	**Question**	Which of the following is NOT the component of solar thermal power plant
	Option a	Steam turbine

	Option b	Condenser
	Option c	Heat exchanger
	Option d	Anemometer
	Answer	d
39	**Question**	Identify odd term in the given sequence
	Option a	Solar collector collect the Solar radiations
	Option b	Boiler is used to generate steam from heat of solar collector
	Option c	Steam turbine use the steam produced by boiler to rotate turbine blades
	Option d	Steam coming from turbine used in cooling tower for recirculation
	Answer	d
40	**Question**	Which one is true related with Darrieus rotor wind mill
	Option a	Vertical axis type wind mill
	Option b	Rapidly rotating propeller type wind mill
	Option c	Option b is false
	Option d	Both a & b
	Answer	d
41	**Question**	Which of the following is type of solar collector
	Option a	Cylindrical parabolic collector
	Option b	Flat plate type collector
	Option c	Parabolloide collector
	Option d	All of these
	Answer	d
42	**Question**	In Solar thermal plant Insulation box is having insulation coating of
	Option a	Glass or Mineral wool
	Option b	Mineral wool & Mica
	Option c	Asbestos & Glass
	Option d	Both b & c
	Answer	a
43	**Question**	The purpose of Transparent cover on flat plate collector is
	Option a	It decrease the heat loss
	Option b	It does not affect incoming solar radiation
	Option c	It trap the solar energy
	Option d	All of these
	Answer	d
44	**Question**	Flat plate collector solar power plant is
	Option a	High temperature solar power plant
	Option b	Medium temperature solar power plant
	Option c	Low temperature solar power plant
	Option d	All the above
	Answer	c
45	**Question**	In photovoltaic technology converts solar radiations directly into electricity using _____ materials
	Option a	Metals
	Option b	Conductors
	Option c	Semiconductor
	Option d	None of these
	Answer	c

46	**Question**	During the first and last quarters of the Moon's phases _____ tides occurs.
	Option a	Neap tide
	Option b	Ebb tide
	Option c	High tide
	Option d	Low tide
	Answer	a
47	**Question**	In India, where is the first tidal power station is situated
	Option a	Kerala, Kuchipudi
	Option b	Tamilnadu, Trivandrum
	Option c	Maharashtra, Trombey
	Option d	Gujarat, Gulf of Kutch
	Answer	d
48	**Question**	Ebb tide is also known as
	Option a	Spring tide
	Option b	Neap tide
	Option c	Flood tide
	Option d	Low tide
	Answer	d
49	**Question**	Which of the following wind mill type was invented by S.J. Savonius
	Option a	Sail wind mill
	Option b	Darrieus type
	Option c	'S' type rotor wind mill
	Option d	Single blade horizontal axis type
	Answer	c
50	**Question**	In closed cycle MHD system working fluid is
	Option a	Metal ore
	Option b	Inert gas
	Option c	Electron gun
	Option d	Hydrogen gas
	Answer	b

UNIT VI
1. The insulating material used for the commutator segment is generally
(A) Graphite (B) Carbon (C) Mica (D) Insulating varnish
C
2. Copper brushes in D.C. machine are used
(A) Where low voltage and high currents are involved (B) Where high voltage and small currents are involved (C) In both of the above cases (D) In none of the above cases
A
3**.** For Generating large current on D.C generators which winding is generally preferred
(A) Progressive wave winding (B) Lap Winding (C) Retrogressive Lap winding (D) Current depends on design
B
4. An exciter for a turbo generator is a
(A) Separately excited generator (B) Shunt generator (C) Series generator (D) Compound generator
B
5. The essential condition for parallel operation of two D.C. generators is that they have
(A) Same kW rating (B) The same operation r.p.m. (C) The same drooping voltage characteristics (D) Same percentage regulation
C
6. Two alternator operating in parallel must have same
(a) voltage. (b**)** frequency. (c) phase sequence. (d) all of the above.
D
7. The generator which gives dc supply to the rotor of an alternator is called
a) Convertor b) Exciter c) Inverter d) Rectifier
B

8. A circuit breaker is

(A) power factor correcting device
(B) a device to neutralize the effect of transients
(C) a waveform correcting device
(D) a current interrupting device.

D

9. Desired tripping of a circuit breaker is

(A) Manually
(B) Automatically
(C) That it should give warning
(D) None of these

B

10.Low voltage circuit breakers have rated voltage of less than

(A) 220 V
(B) 400V
(C) 1000 V (D) 10,000 V.

C

11.As the speed of an alternator increases, the frequency

(A) Increases
(B) Decreases
(C) Remains constant
(D) May increases or decreases depending on the power factor

A

12.Alternator works on the principle of

(A) Self and mutual induction
(B) Self mutual induction
(C) Faraday's law of electromagnetic induction
(D) Mutual induction

C

13. SF_6 gas is

(A) sulphur fluoride
(B) sulphur difluoride
(C) sulphur hexafluorine
(D) sulphur hexafluoride.

D

14. The rating of transformer may be expressed in _____.

(A) kW
(B) kVAR
(C) kVA
(D) Horse power.

C

15. A common method of cooling a power transformer is

(a) natural air cooling
(b) air blast cooling
(c) oil cooling
(d) any of the above

C

16.Power transformers are designed to have maximum efficiency at

(A) nearly full load
(B) 70% full load
(C) 50% full load
(D) no load

A

17. An Isolation Transformer Has Primary to Secondary turns ratio of _____.

(A) 1 : 2
(B) 2 : 1
(C) 1 : 1
(D) Can be any ratio

C

18. The open circuit test in a transformer is used to measure

(A) Copper loss
(B) Winding loss
(C) Total loss
(D) Core loss

D

19. Which of the following generating station has minimum running cost?

(A) Nuclear.
(B) Hydro.
(C) Thermal.
(D) Diesel.

B

20. The main source of production of biogas is

(a) human waste
(b) wet cow dung
(c) wet livestock waste
(d) all above

D

21. Economiser is used for heating

(A) Feed water
(B) Steam
(C) Air
(D) All of these

A

22. Hydroelectric power stations are generally located in

(A) plane area.
(B) hilly area.
(C) cold area.
(D) warm area.

B

23. Which of the following power plant usually offer highest maintenance cost?

(A) Nuclear power plants.
(B) Hydro-electric power plants.
(C) Thermal power plants.
(D) Diesel engine power plants

C

24. If the diversity factor of a power station is high then its generation cost is

(A) high.
(B) low.
(C) remain same.
(D) depend on the plan type

B

25. Solar thermal power generation can be achieved by

(A) using focusing collector or heliostates
(B) using flat plate collectors
(C) using a solar pond
(D) any of the above system

D

26.General output power from Wind energy ranges from——-

(A) 20kW to 12MW
(B) 30kW to 5MW
(C) 20kW to 2MW
(D) 10kW to 10MW

B

27.The widely-used fuel in thermal power plants is

(A) Coal
(B) Natural Gas

A

28. What is a load curve?

(A) A plot of load vs current.
(B) A plot of load vs time.
(C) A plot of load vs duration of time.
(D) Total number of units generated vs time.

B

29. What does a load duration curve represent?

(A) The variation of load during different hours of the day.
(B) Average load.
(C) The number of hours for which a particular lasts during the day.
(D) None of the above.

C

30. What is the load factor of a power plant?

a. Greater than unity.
b. Less than unity.
c. Always more than unity.
d. Normally more than unity.

B

31. What is the shape of the load duration curve?

(A) Rectangular shape.
(B) Triangular shape.
(C) Parabolic shape.
(D) Free hand sketch

A

32. What does the area under the load curve represent?

(A) System voltage.
(B) Current.
(C) Energy consumed.
(D) Maximum demand.

C

33. In a separately excited generator supplying rated load the armature reaction:

(A) Is always present
(B) Is always absent
(C) May be sometimes present
(D) None of the above

A

34. What does the highest point on the daily load curve represents?

(A) Peak load.
(B) Maximum demand.
(C) Both (a) & (d).
(D) None of these.

B

35. A D.C. welding generator has

(A) Lap winding
(B) Wave moving
(C) Duplex winding
(D) Any of the above

A

36. Which of the following power plant has least efficiency?

(A) Nuclear power plant.
(B) Hydro power plant.
(C) Steam power plant.
(D) Diesel power plant.

C

37. The modern steam turbines are

(A) impulse turbines
(B) reaction turbines
(C) impulse-reaction turbines
(D) none of the above

C

38. Arc interruption is done by

A) High resistance interruption
B) Low resistance interruption
C) Both (a) and (b)
D) None of these

C

39. Arcing time is the time between

A) Separation of circuit breaker and extinction of arc
B) Separation of circuit breaker and rise of recovery voltage
C) Normal current interruption and arc extinction
D) None of these

A

40. Load curve of a generation is always

(A) Positive slope.
(B) Zero slope.
(C) Negative slope.
(D) Combination of (A), (B) and (C).

D

41. The draught which a chimney produces is called

(A) induced draught
(B) natural draught
(C) forced draught
(D) balanced draught

B

42. The function of protective relay in a circuit breaker is

(A) to each any stray voltages
(B) to close the contacts when the actuating quantity reaches a certain predetermined value
(C) to limit arcing current during the operation of circuit breaker
(D) to provide additional safety in the operation of circuit breaker.

B

43. In a steam power plant, the function of a condenser is

(A) to maintain pressure below atmospheric to increase work output from the prime mover
(B) to receive large volumes of steam exhausted from steam prime mover
(C) to condense large volumes of steam to water which may be used again in boiler
(D) all of the above

D

44. Which of the following circuit breakers has the lowest operating voltage?

(A) SF_6 circuit breaker
(B) Air break
(C) Air blast
(D) Minimum oil circuit breaker

B

45. Why are the isolators used?

(A) Break abnormal current
(B) Making under fault conditions
(C) Breaking the circuit under no load condition
(D) None of the above

C

46. What is the power factor tariff?

(A) It considers only maximum demand.
(B) It considers only semi fixed charges and the power factor.
(C) It considers only power factor.
(D) It considers the load factor.

C

47. The tarrif in which power factor is taken as reference

(A) Sliding scale tariff
(B) kVA maximum demand tariff
(C) kW and kVAR tariff
(D) All of these

D

48. Which tariff is also known as the average power factor tariff?

(A) Sliding scale tariff.
(B) kW tariff.
(C) kVAR tariff.
(D) kVA maximum demand tariff.

D

49. For which among the following the current ratings are not required?

(A) Circuit breakers
(B) Relays
(C) Isolators
(D) Load break switch

C

50. Active power and apparent power are respectively represented by?

(A) kW and kVAR
(B) kVAR and kVA
(C) kVA and kVAR
(D) kW and kVA

D

51. A consumer who consumes more energy should be charged

(A) Less
(B) More

A

52.Which among the following happens in a low power factor?

a. Large kVA rating of the equipment.
b. Greater conductor size.
c. Reduced handling capacity of the system.
d. All of the above.

D

53. What is the making to breaking current ratio for an extra high voltage circuit breaker?

(A) More than 1
(B) Equal to 1
(C) Less than 1
(D) A negative value

A

54. For which among the following consumers is penalty imposed for low power factor?

(A) Residential and commercial consumers.
(B) Industrial consumers.
(C) Agricultural consumers.
(D) All of the above.

B

55. What does the area under the load curve represent**?**

(A) System voltage.
(B) Current.
(C) Energy consumed.
(D) Maximum demand.

C

56. Which of the following generators will be preferred if they are required to be run in parallel?

(A) Shunt generators
(B) Series generators
(C) Compound generators
(D) None of the above

A

57. Power factor can be improved by connecting which among these?

(A) Static capacitors.
(B) Resistors.
(C) Synchronous condensers.
(D) Both (a) and (c).

D

58. The most suitable location for the power factor improvement device is

(A) Near the electrical appliance which is responsible for the poor power factor.
(B) At the sending end.
(C) At the receiving end in case of transmission lines.
(D) Both (a) and (c).

D

59. What is the breaking capacity of the air blast circuit breaker?

(A) 5000 MVA
(B) 6000 MVA
(C) 7000 MVA
(D) 10000 MVA

C

60. Which of the following material act as coolant in a nuclear power plant?

(A) liquid sodium.
(B) graphite.
(C) beryllium.
(D) all of the above.

A