Electrical Engineering

1. 2. Corona occurs between two transmission wires when they a) Are they closely-spaced b) are widely-spaced c) Have high potential difference d) carries d.c. Supply 3. Suspension insulators are used when transmission voltage is a) High b) low c) fluctuating d) steady 4. Overhead system can be designed for operation up to a) 11 kV b) 33 kV c) 66kV d) 400 kV 5. The phenomenon of rise in voltage at the receiving end of the open-circuited or lightly loaded line is called the b) Ferranti effect c) Raman effect d) none of these a) Seekback effect 6. The charging current in the cables a) Leads the voltage by 180 b) leads voltage by 90 c) lags the voltage by 90 d) lags the voltage by 180 7. A train weighing 490 tones and running at 90 Km/h has a mass of....... Kg and a speed ofm/s. a) 50,000, 25 b) 490,000, 25 c) 490, 25 d) 50, 324 8. A steel mill requires a motor having high starting torque, wide speed range and precise speed control. Which one of the following motors will you choose?

b) synchronous motor

a) d.c. shunt motor

	c) d.c series motor		d) slip ring induction motor			
9.	Heavy duty steel-works	cranes which h	ave wide load	variation are	equipped with Motor	
	a) double squirrel-cage	b) d.c. series	c) slip-ring	induction	d) cumulative compound	
10.	Which motor is generally used in rolling mills, paper and cement industries.					
	a) d.c. Motor shunt		b) double squirrel-cage motor			
	c) slip-ring induction motor		d) three-phase synchronous motor			
11. The starting torque of a D.C. motor is independent of which of the following?				following?		
	a) Flux b) Arm	ature	c) bush	d) Speed		
12.	The function of a cycloconverter is to convert					
	a) ac power into dc pow	ver		b) direct	current into alternating current	
	c) High ac frequency di	rectly to low ac	frequency	d) a sine	wave into a rectangular wave.	
13.	When graphite electrodes are used in arc furnaces, the temperature obtained is in the range of Degree centigrade.					
	a) 3000-3500	b) 2500-3000	c) 20	00-2500	d) 1500-2000	
14.	Which of the following	induction furna	ce has the lowe	est power fac	etor?	
	a) Vertical core type	b) indirect core	e type c) co	reless type	d) core type	
15.	Which of the following	will happen if t	he thickness of	refractory w	vall of furnace is increased	
	a) Heat loss through furnace wall will increase					
	b) Temperature inside the furnace will fall					
	c) Temperature on the outer surface of furnace walls will drop					

16. Hysteresis loss and eddy current loss are used in					
	a) Induction heating of steel b) dielectric heating				
	c) Induction heating of brass resistance heating d) resistance heating				
17.	A weld bead of wineglass design is produced in welding.				
	a) Plasma arc b) electron beam c) laser d) MAG.				
18.	Electric arc welding process produces temperature up to				
	a) 1000^{0} C b) 1500^{0} C c) 3500^{0} C d) 5550^{0} C				
19.	A seamless pipe has				
	a) steam welded joint b) spot welded joint c) arc welded joint d) no joint				
20.	In D.C. are welding				
	a) Electrode is made positive and workpiece negative				
	b) Electrode is made negative and workpiece positive				
	c) Both electrodes as well as workpiece are made positive				
	d) Both electrodes as well as workpiece are made negative				
21.	Which of the following lamp has minimum initial cost of installation but maximum running cost?				
	a) Incandescent b) fluorescent c) mercury vapour d) sodium vapour				
22.	Candela is the unit of which of the following?				
	a) Wavelength b) Luminous intensity c) Luminous flux d) Frequency				

d) energy consumption will increase

23.	For normal reading the illum	ination level required is	around			
	a) 20-40 lumens/m2	b) 60-100 lumens/m	b) 60-100 lumens/m2			
	c) 200-300 lumens/m2	d) 400-500 lumens/r	d) 400-500 lumens/m2			
24.	The number system 1001012	is equivalent to octal				
	a) 54 b) 45	c) 37 d) 2	5			
25. An XOR gate produces an output only when its two inputs are						
	a) high b) low	c) different d) sa	ame			
26.	A NOR gate is ON only whe	n all its inputs are				
	a) ON b) positive	c) high	d) OFF			
27.	CMOS circuits are extensive	ly used for on-chip comp	outers mainly because of the	ir extremely		
	a) Low power dissipation	o) large packing density	c) high noise immunity	d) low cost		
28.	A J-K flip-flop is a device to					
	a) Divide the frequency by 2		b) divide the free	quency by 4		
	c) generate the waveform of division	same frequency as that	of the input d) cannot be us	sed for frequency		
29.	Which of the following circu	it is used for production	delays?			
	a) astable multivibrator	b) bistable i	multivibrator			
	c) monostable multivibrator	d) Schmitt-	rigger			

30. A 555 IC timer can be used to operate as					
a) As monostable multivibrator	b) an astable multivibrator				
c) A voltage controlled oscillator	d) all of these				
31. The current sensitivity of a meter is expressed in					
a) Ampere b) ohm/ampere	c) ohm/volt d) ampere/division				
32. The basic movement can be converted in	nto an ohmmeter by connecting awith it.				
a) High resistance in series	b) low resistance in parallel				
c) Battery in series	d) battery and a variable resistance in series.				
33. A spectrum analyser can be described as					
a) Voltage selective frequency meter	b) current selective frequency meter				
c) Frequency meter	d) none of these				
33. An inductor has an inductance of 0.5 mH current flowing through inductor is 5 A. If this inductor is switched off in one "millisecond what is the back EMF in inductor? Inductance of Inductor = 0.5. mH					
A. 25 volts B. 2.5 vo	lts C. 5 volts D. 10 volts				
34. In a substation the most commonly	used type of arrester is——— arrester				
A. Thyrite B. Horn gap. C. Thorn gap D. Rod gap					
35. Balanced earth fault protection is generally provided for generation.					
A. small size	B. medium size				
C. large size ,	D. None of the above.				
36. B class insulation is used for maximum temperature rise of					
A. 180 °C B. 130	° C C. 155 °C D. 90 °C				
37. The inductance of coil can be increased by					

	A. decreasing no of turns	B. increasing core length
	C. using core material of high relative permeability	D. none of the above
38.	Power dissipated in a pure capacitor is	
	A. Minimum B. Maximur	n C. Infinite D. Zero
39.	Non-conductors whose polarisation is ca	aused by an electric field are known as
	A. Dielectric	B. Super Conductor
	C. Semi—Conductor	D. Insulator
40.	Eddy current loss in a d.c. shunt generator is proportional to	
	A. Flux density	B. (Flux density) ^{1/2}
	C. 1/Flux density	D. (Flux density) ²