

SIDDHARTH GROUP OF INSTITUTIONS :: PUTTUR

Siddharth Nagar, Narayanavanam Road – 517583

QUESTION BANK (DESCRIPTIVE)

Subject with Code : UEE (13A02702)

Course & Branch: B.Tech - EEE

Year & Sem: IV-B.Tech & I-Sem

Regulation: R13

<u>UNIT – I</u>

ILLUMINATION

1.	a) Draw and explain the operation of sodium vapour lamp with neat diagram and enumer advantages and disadvantages.	ate its 5M
	 b) A lamp having a uniform cp of 100 in all direction is provided with a reflector which d 60% of the light uniformly on to a circular area of 10m diameter. The lamp is hung 5m above the area. Calculate the illumination at the centre. 	irects 5M
2.	a) State and explain laws of illumination.	5M
	b) Six lamps are used to illuminate a certain room. If the luminous efficiency of each lam 12 lumens/watt and the lamps have to emit a total lux of 10,000 lumens, calculate(i) Th mean spherical luminous intensity(ii) The cost of energy consumed in 3 hours if the ch for electrical energy is 50 paise per unit.	p is ne narge 5M
3.	 a) If a lamp of 200 cp is placed 1m below a plane mirror which reflects 90% of light falling on it, determine illumination at a point 3 m away from the foot of the lamp which is hugh 4 m above ground. b) Explain with sketch the principle and operation of incandescent lamp and enumerates is advantages and disadvantages. 	ng 4M ts 6M
4.	a) A 250 CP lamp is hung 4m above the centre of a circular area of 6m diameter. Calcula illumination at the (i) Centre of area. (ii) Periphery of the area. (iii) Average illumination b) Explain the various factors to be taken into account for designing schemes for.	te the on 5M
	(i) Factory lighting (ii) Street lighting	
5.	 A machine shop 40m×20m is to have an illumination of 160lux on working plane. The lar are mounted on 6m above the working plane. Give the layout of a suitable installation. a) Using filament lamp. b) Using 50 watts fluorescent lamp. Assume necessary data. 	nps 10 M
6.	 a) Write short notes on polar curves and explain the Rousseau's construction for calculating MSCP of lamp. b) A filament lamp of 500W is suspended at a height of 4.5 m above the working plane as gives uniform illumination over an area of 6 m diameter. Assuming an efficiency of the reflector as 70% and efficiency of lamp as 0.8 watt per candle power, determine the illumination on the working plane 	ng 5M nd 5M

	QUESTION BANK	2016
7.	State the laws of illumination. Explain the laws with the help of suitable diagrams an equation of the same.	d derive an 10M
8.	 a) A room measuring 30m×15m is to be illuminated by 10 lamps and the average illusis to be 85 lux. Determine the MSCP of each lamp if the utilization and depreciation are 0.5 and 0.8 respectively. b) Briefly explain the requirement of good lighting scheme. 	umination on factors 5M 5M
9.	a) Explain with sketch the principle and operation of fluorescent lampb) Write short notes on flood lighting.	5M 5M
10.	 a) Write short notes on source of light b) Define Mean spherical candle power c) Define lamp efficiency d) Define space-height ratio e) Write short notes on glare 	2M 2M 2M 2M 2M

<u>UNIT –II</u>

ELECTRIC HEATING & WELDING

1.	a) Briefly discuss the method of Dielectric heating used in the electric heating.b) Briefly discuss the applications of resistance heating.	5M 5M
2.	a) Describe direct and indirect core type furnace with neat sketchesb) Explain application of induction heating.	5M 5M
3.	a) What are the different types of heating? Write advantages of electric heating.b) A low frequency induction furnace whose secondary voltage is maintained constant at volts, takes 400 kW at 0.6 pf, when the hearth is full. Assuming the resistance of the secondary to vary inversely as the height of the charge and reactance to remain constant height up to which the hearth should be filled to obtain maximum heat.	5M 10 nt, 5M
4.	 a) Discuss briefly about induction and dielectric heating process. b) A slab of insulating material 150 sq cm in area and 1 cm thick is to be heated by dielectric heating. The power required is 400 W at 30 × 10⁶ cps. Materials has permittivity of 5 and power factor of 0.05. Determine voltage necessary. 	4M 6M
5.	a) Write briefly about ultrasonic welding and defects in welding process.b) Differentiate between A.C and D.C welding. Discuss about the techniques used for arc welding.	5M 5M
6.	a) Briefly discuss the welding electrodes of various metals.b) Explain briefly the types of electric arc welding.	5M 5M
7.	Explain the different methods of electric welding and their relative advantages.	10M
8.	Discuss the various applications of electrolysis in detail.	10M
9.	a) Discuss the advantages of reverse current process of electro plating.b) Discuss faraday's laws and applications of electrolysis in detail.	5M 5M
10	 a) Write short notes on welding transformer characteristics. b) Explain Spot welding c) What are various modes of heat transfer? d) Name the materials commonly used for heating elements. e) What is electro-deposition? 	2M 2M 2M 2M 2M

<u>UNIT –III</u>

ELECTRIC TRACTION - I

1.	a) Compare A.C traction with D.C traction with necessary examples.b) Explain about the different methods of electric braking systems in the case of traction.	5M 5M
2.	Discuss the characteristic features of a traction motor for effective traction systems.	10M
3.	 a) What are the special features of traction motors? b) A goods trains weighing 300 tonnes is to be hauled by a locomotive up a gradient of 2 an acceleration of 1 kmphps. Coefficient of adhesion is 20%. Track resistance = 45 W and effect of rotational masses is 15% of dead weight. If axle load is not to exceed by tonnes, determine the weight of locomotive and number of axles. 	5M % with /Ton 20 5M
4.	 a) How the electric traction system is classified? Briefly discuss. b) A train has schedule speed of 30 km/hr over a level track distance between stations be 1 cm. Duration of stop is 20 sec. assuming braking retardation of 3 km/hr/sec and may speed 25% greater than average speed, calculate acceleration required to run the service. 	5M Sing Simum Se
5.	a) Write short notes on mechanism of train movement.b) What is co-efficient of adhesion? How does it affect shipping of driving wheels of trai	5M 5M n unit? 5M
6.	a) Explain the systems usually employed for track electrification.b) Explain the type of Rheostatic braking with relevant diagrams.	5M 5M 5M
7.	Describe how plugging, rheostatic braking and regenerative braking are employed with E series motor.	ЭС 10М
8.	 a) What are the advantages of electric breaking? b) A 400 tonne goods train is to be hauled by a locomotive up a gradient of 2% with acceleration of 1 km/hr/sec, coefficient of adhesion 20%, track resistance 40 newtons/ and effective rotating masses 10% of the dead weight. Find the weight of the locomot and the number of axles if the axle load is not to increase beyond 22 tonnes. 	5M tone ive 5M
9.	Derive the relationship between tractive effort, gearing efficiency, gear ratio and driving diameter of an electric train.	wheel 10M
1(a) Write short notes on adhesive weight. b) What is electric traction? c) Name the different systems of traction. d) Why A.C. series motors used for traction services are designed to operate at low frequ i.e., 16 ²/₃ Hz or 25 Hz. e) What is main disadvantage of electric traction. 	2M 2M 2M ency 2M 2M

<u>UNIT –IV</u>

ELECTRIC TRACTION - II

1.	a) Explain the calculations of tractive effort.b) Write a short note on specific energy consumption.c) Explain about effect of varying acceleration and braking retardation in the electric traction in the electric traction and braking retardation a	3M 3M ction
2.	systems. An electric train has an average speed of 42 km/hr on a level track between stops 1400 mapart. It is accelerated at 1.7 km/hr/sec and it is braked at 3.3 km/hr/sec. Draw the speed curve and estimate the specific energy consumption. Assume tractive resistance as 50 NW/Tonne and allow 10% rotational inertia.	4M n -time 10M
3.	a) Write short notes on specific energy consumption.b) What do you understand by the specific energy consumption and what factors affect the specific energy consumption.	5M 5M
4.	a) The tractive effort for propulsion of a train on level track.b) The tractive effort for propulsion of a train up and down a gradient.	5M 5M
5.	A train is to run between two stations 1.6 km apart at an average speed of 40 kmph, the to be made to a quadrilateral N-T curve. Maximum speed is to be limited to 64 kmph, acceleration, to 2 kmphps, coasting retardation to 0.16, and braking retardation to 3.2, determine the duration of a acceleration, coasting and braking periods.	run is 10M
6.	 a) Discuss the speed-time curves for main line services. b) A train has schedule speed of 60 km/hr between the stops which are 6 km apart. Determine the crest speed over the run assuming trapezoidal speed time curve. The train accelerates at 2 km/hr/sec and retards at 3 km/hr/sec. Duration of stops is 60 sec. 	4M 6M
7.	 a) Discuss the speed-time curves for urban service. b) A sub urban electric train has a maximum speed of 70 km/hr. The schedule speed including a station stop of 30 sec in 45 km/hr. If the acceleration is 1.5 km/hr/sec. Fin the value of retardation when the average distance stops is 6 m. 	4M d 6M
8.	What is coefficient of adhesion? How the value of coefficient of adhesion affects the sli and skidding of the driving wheels of traction unit?	pping 10M
9.	An electric train is to have acceleration and breaking retardation of 0.8 km/hr/sec and 3.2 km/hr/sec respectively. If the ratio of maximum to average speed is 1.3 and time for stop sec, find the schedule speed for a run of 1.5 km. Assume simplified trapezoidal speed tim curve.	is 26 ne 10M
10.	With the help of Speed-Time curve, define and explain the importance of following factor	ors in a
	 a. Notching period. b. Free running period. c. Accelerating period. d. Coasting period. e. Braking period. Prepared by: K. BA 	2M 2M 2M 2M 2M ABU

<u>UNIT –V</u>

ECONOMIC ASPECTS OF UTILISING ELECTRICAL ENERGY

1.	a) What do you understand by power factor? Give the disadvantages of poor power factob) What are the advantages of improved power factor?	r. 5M 5M
2.	a) Explain with a neat sketch the function of an economizer.b) List at least five applications of heat pipes.	5M 5M
3.	a) What are waste heat recovery boilers? Explain the need and benefits.b) Explain any three types of 'recuperators'.	5M 5M
4.	a) What are the technical aspects of energy efficient motors?b) Explain the functions and benefits of demand controller	5M 5M
5.	 a) How can the power generation cost be reduced? b) A 400v, 3- phase installation drawn a current of 50 A at 0.8 lagging p.f. It is desired to a synchronous motor to improve the overall power factor to 0.95 lagging. The synchromotor will drive a 25 H.P. (metric) load at an efficiency of 0.9 calculate: (i) The KVA of the synchronous motor. (ii) The power factor of the motor. 	5M istall nous 5M
6.	 a) A generating station has a connected load of 50 MW and a maximum demand of 25 M unit generated being 61.5x 10⁶ per annum. Calculate demand factor and load factor. b) List the essential components of a diesel power plant and explain them briefly. 	W the 5M 5M
7.	a) Write short notes on pit head generation.b) Explain about use of private generating plant.	5M 5M
8.	A supply has to be provided for a factory having a maximum load of 250 KW and an ann load factor of 40%. Compare the cost of providing this from (a) Public supply at 11KV. If a tariff of Rs: 120 per KW+4 paise per unit. (b) a diesel plant costing Rs: 360 per KW and having a running cost for fuel and oil of 6 paise per unit generated	ual Having d 10M
9.	a) Discuss the role of load factor on the cost of electrical energy.b) What are the causes of low power factor in power system? Name the devices used to improve the power factor.	5M 5M
10	 a) What is the principle of regenerators? b) Give three examples of low temperature air to air heat recovery device. c) List various energy efficient lighting controls. d) Define the load factor. e) Define the demand factor. 	2M 2M 2M 2M 2M

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UN	<u>IT – I</u>
ILLUN	IINATION
1. Which of the following statements is correct?	 []
A) Light is a form of heat energy B) L	ight is a form of electrical energy
C) Light consists of shooting particles D) L	ight consists of electromagnetic waves
2. Candela is the unit of which of the following?	
A) wave length B) luminous intensi	ty C) Luminous flux D) Frequency
3. Colour of light depends upon	., ., <u>.</u> ,
A) Frequency B) Wave length	C) Both A and B D) Speed of light
4 Luminous efficiency of fluorescent tubes is	
A) 10 lumens/watt B) 20 lumens/watt	C) 40 lumens/watt D) 60 lumens/watt
5. Solid angle is expressed in terms of]
A) Radians/meter B) radian	C) degree D) steradians
6. The unit of luminous flux is	[]
A) watt/m ² B) lumens	C) lumens/ m^2 D) watt
7. A mercury vapour lamp gives light.	[]
A) White B) Pink	C) Yellow D) Greenish blue.
8. Glare is reduced by	[]
A) Using diffusers	B) Increasing the height of the lamp
C) Using reflectors to cut-off the at certain ang	the D) all of the above
9. The colour of sodium vapour discharge lamp is	S []
A) Red B) Pink	C) Yellow D) Greenish blue.
10. A reflector is provided to	[]
A) Protect the lamp	B) Provide better illumination
C) Avoid glare	D) all of the above
11. The function of capacitor across the supply to (A) Stabilize the arc	B) Poduce the starting current
C) Improve the supply power factor	D) Reduce the noise
12. Illumination of one lumen per sq. meter is cal	led []
A) Lumen meter B) Lux	C) Foot candle D) Candle
13 Will need lowest level of illumination.	[]
A) Auditorium B) Railway platform	n C) Displays D) Fine engravings.
14. Due to moonlight, illumination is nearly	
A) 3000 lumens/m ² B) 300 lumens/m ²	C) 30 lumens/m ² D) 0.3 lumens/m ²
15. The purpose of coating the fluorescent tube from tube from tube from tube fluorescent tube from tube from tube fluorescent t	om inside with white power is []
A) To improve its life	
B) To change the colour of light emitted to wh	nite
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C) To improve the ap D) To increase the lig	pearance ht radiations due to seco	ondary emission		
16. A mercury vapour lan	np gives light.		[]
A) White	B) Pink	C) Yellow	D) Greenish blu	le.
17. The illumination at va	rious points on horizont	tal surface illuminated b	y the same	
source varies as.			[]
A) $\cos^3 \Theta$	B) COS O	C) l/r^2	D) $\cos^2 \theta$	
18). The M.S.C.P. of a lat	mp which gives out a to	tal luminous flux of 400	Л candela. []
A) 200	B) 100	C) 50	D) 40	
19). The direct lighting so	heme is most efficient b	out is liable to cause.	[]
A) monotony	B) glare	C) hard shadows	D) Both (B) and	l (C)
20). Total flux required	in lighting scheme depe	nds inversely on	[]
A) Illumination	B) Surface area	C) Utilization factor	D) Space/height	t ratio.
21). The average working	g life of a fluorescent la	mp is about ho	urs. []
A) 1000	B) 4000	C) 3000	D) 5000	
22). The luminous efficient	ency of a sodium vapour	r lamp is about lu	men/watt []
A) 10	B) 30	C) 50	D) 70	
23) will need low	vest level of illumination	1.	[]
A) Auditoriums	B) Railway platform	n C) Displays	D) Fine engravi	ngs
24). In electrical discharg	ge lamps light is produce	ed by	[]
A) Cathode ray emis	sion	B) Ionization in a ga	s or vapour	
C) Heating effect of	current	D) Magnetic effect of	of current	
25). For normal reading the	he illumination level req	juired is around	[]
A) 20 – 40 lumens/n	n^2	B) 60 – 100 lumens/	m^2	
C) 200 – 300 lumens	s/m^2	D) 400 – 500 lumens	s/m^2	
26). A substance which c	hange its electrical resist	tance when illuminated	by light is called.[]
A) Photoelectric	B) Photovoltaic	C) Photo conductive	D) None of the	above
27) is a cold cathe	ode lamp.		[]
A) Fluorescent lamp		B) Neon lamp		
C) Mercury vapour la	amp	D) Sodium vapour la	amp	
28). For precision work the	ne illumination level req	uired is of the order of	[]
A) 500 – 1000 lumen	is/m ²	B) 200 – 2000 lumer	ns/m^2	
C) 50 – 100 lumens/r	n^2	D) 10 – 25 lumens/m	n^2	
29). The tungsten filamen	t lamps when compared	l with fluorescent tubes	have all the follow	ving
Advantages except.				
A) Simple installation	l	B) Long life		
C) Less costly		D) More brightness.		
30). Incandescent lamps,	coiled coil filaments are	used for	[]
A) Coloured lamps		B) Higher wattage l	amps	
C) Gas filled lamps		D) Low wattage lam	ps	
31). Soft shadows are pro	duced by		[]
A) Using surface sou	rce of light instead of po	oint source of light.		
B) Increasing the nur	nber of lamps			
C) Both A and B				

QUESTION BANK 2016 D) None of the above 32). Which of the following is present inside the fluorescent tube? 1 A) Argon and neon B) Argon and CO₂ C) Mercury vapour D) Helium and oxygen 33). Which of the following bulb operates on least power? 1 A) GLS bulb B) Torch bulb C) Neon bulb D) Night bulb 34). In case of ----- least illumination level is required. 1 A) Skilled bench work B) Drawing offices C) Hospital wards D) Fine machine work. 35). ----- does not have separate choke ſ 1 D) All the above. A) Sodium vapour lamp B) Fluorescent lamp C) Mercury vapour lamp 36). Most affected parameter of a filament lamp due to voltage change is ſ 1 D) Light output A) Wattage B) life C) Luminous efficiency 37). The luminous flux is ſ 1 A) The light energy radiated by sun B) The part of light energy, radiated by sun, which is received on the earth C) The rate of energy radiation in the form of light waves D) None of the above 38). Co-efficient of utilization depends upon------1 ſ A) Colour of the wall B) Colour of ceiling C) Size the room D) All the above 39). The gas filled in vacuum filament lamp is ſ 1 A) Nitrogen B) Argon C) Air D) None 40). ----- cannot sustain much voltage fluctuations. 1 ſ A) Sodium vapour lamp B) Mercury vapour lamp C) Incandescent lamp D) Fluorescent lamp

<u>UNIT –II</u>

ELECTRIC HEATING & WELDING

1. which of the following is an advantage of electr	icity?	[]
A) Quicker operation B) Higher efficiency	C) Absence of flue	gases D) All of the above
2 method has leading power factor		[]
A) Resistance heating B) Dielectric heating	C) Arc heating	D) Induction heating
3. Which of the following methods is used to cont	rol temperature in resis	stance furnaces []
A) Variation of resistance	B) Variation of vol	tage
C) Periodical switching on and off the supply	D) All of the above	methods.
4. Radiations from a black body are proportional t	0	[]
A) T B) T^2	C) T^3 D) T^4	
5. In the indirect resistance heating method, maxim	num heat-transfer take	s place by []
A) Radiation B) Convection	C) Conduction	D) Any of the above
6. Induction furnaces are employed for which of the	ne following?	[]
A) Heat treatment of castings	B) Heating of insulat	tors
C) Melting of aluminum	D) None of the abov	e.
 In resistance heating highest working temperature made of 	re is obtained from he	ating elements
A) Nickel copper B) Nichrome	C) Silicon ca	rbide D) Silver
8. As compare to other methods of heating using g	gas and coal etc, electri	c heating is far superior
because of its.		
A) Cleanliness B) Ease of control	C) Higher efficiency	D) All the above
9. Magnetic materials are heated with the help of		, []]
A) Hysteresis loss B) Electric arc	C) electric current	D) radiation
		2)1001000
10 The main requirements of a good heating elements	ent used in a resistance	furnaces are []
10. The main requirements of a good heating eleme	ent used in a resistance B) High melting $-$ term	e furnaces are []
10. The main requirements of a good heating elementA) High resistivityC) Positive resistance temperature coefficient	ent used in a resistance B) High melting - ter	e furnaces are [] mperature
 10. The main requirements of a good heating element A) High resistivity C) Positive resistance – temperature coefficient 	ent used in a resistance B) High melting - ter t D) All the above	e furnaces are [] mperature
 10. The main requirements of a good heating elements A) High resistivity C) Positive resistance – temperature coefficients 11 has the highest value of thermal conducts A) Conpersion B) Aluminum 	ent used in a resistance B) High melting - ter t D) All the above tivity.	e furnaces are [] mperature []
 10. The main requirements of a good heating elements A) High resistivity C) Positive resistance – temperature coefficients 11 has the highest value of thermal conduct A) Copper B) Aluminum 12 When a body reflects entire radiation incident 	ent used in a resistance B) High melting - ter t D) All the above tivity. C) Brass on it then it is known	b furnaces are [] mperature [] D) Steel as: []
 10. The main requirements of a good heating elements A) High resistivity C) Positive resistance – temperature coefficients 11 has the highest value of thermal conduct A) Copper B) Aluminum 12. When a body reflects entire radiation incident A) White body B) Grey body 	ent used in a resistance B) High melting - ter t D) All the above tivity. C) Brass on it, then it is known C) Black body	be furnaces are [] mperature [] D) Steel as: [] D) Transparent body
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 10. The main requirements of a good heating elements A) High resistivity C) Positive resistance – temperature coefficients 11 has the highest value of thermal conduct A) Copper B) Aluminum 12. When a body reflects entire radiation incident A) White body B) Grey body 13. Induction heating is abnormally high A) Phase angle B) Frequency 14. In direct arc furnace, which of the following hat A) Current B) Voltage 15. For intermittent work which of the following for the follo	ent used in a resistance B) High melting - ter t D) All the above tivity. C) Brass on it, then it is known C) Black body C) Current as high value? C) Power factor urnaces is suitable?	e furnaces are [] mperature [] D) Steel as: [] D) Transparent body [] D) Voltage. [] D) All the above []
 10. The main requirements of a good heating elements. A) High resistivity C) Positive resistance – temperature coefficients 11 has the highest value of thermal conduct A) Copper B) Aluminum 12. When a body reflects entire radiation incident A) White body B) Grey body 13. Induction heating is abnormally high A) Phase angle B) Frequency 14. In direct arc furnace, which of the following hat A) Current B) Voltage 15. For intermittent work which of the following fur A) Radiation 	ent used in a resistance B) High melting - ter t D) All the above tivity. C) Brass on it, then it is known C) Black body C) Current as high value? C) Power factor urnaces is suitable? C) Conduction	e furnaces are [] mperature [] D) Steel as: [] D) Transparent body [] D) Voltage. [] D) All the above [] D) any of the above
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 10. The main requirements of a good heating elements. A) High resistivity C) Positive resistance – temperature coefficients 11 has the highest value of thermal conduct A) Copper B) Aluminum 12. When a body reflects entire radiation incident A) White body B) Grey body 13. Induction heating is abnormally high A) Phase angle B) Frequency 14. In direct arc furnace, which of the following hat A) Current B) Voltage 15. For intermittent work which of the following for A) Radiation B) Convection 16 is used for heating non-conducting mate A) Eddy current heating B) Arc heating 	ent used in a resistance B) High melting - ter t D) All the above tivity. C) Brass on it, then it is known C) Black body C) Current as high value? C) Power factor urnaces is suitable? C) Conduction erials. C) Induction heatin	e furnaces are [] mperature [] D) Steel as: [] D) Transparent body [] D) Voltage. [] D) All the above [] D) any of the above [] g D) Dielectric heating
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			QUESTION	BANK 2	016
A) Flying sparks		В) Weld spatter		
C) Harmful infrared and ultra-violet rays	from the	e arc D) all the above		
1. For the arc welding current range is usua	lly		, ,	[]
A) 10 – 15A B) 30 – 40A	C) 50 –	100A D) 100 – 350 A		
2. In ultrasonic welding the frequency range	e is gene	rally.		[]
A) 2000 to 3000 Hz	B) 4000	to 2000) Hz		
C) 30000 to 40000 Hz	D) 5000	00 to 8000	00 Hz		
3. Which of the following equipment is gen	erally us	sed for ar	c welding?	[]
A) Single phase alternator	B) Two	phase alt	ernator		
C) Three phase alternator	D) Tran	stormer.		г	1
4. Resistance weiging cannot be used for A) Dialactria B) Formous material	C) Non	formous	motorial D) Any o	f the abov]
5 In spot welding composition and thickne	C) NOII	hase met	tal decides		1
A) The amount of squeeze pressure	B) Hold	time	lai ucciucs	L]
C) The amount of weld current	D) All a	hove			
6. Helium produces which of the following	2)//ii/u ?			Γ	1
A) Deeper penetration	I	B) Faster	welding speeds	L	L
C) Narrower heat affected zone in base n	netal I	D) None	of the above.		
7. Due to which of the following reasons al	uminum	is difficu	It to weld?	[1
A) It has an oxide coating	I	B) It cond	lucts away heat very ra	apidly	
C) Both A & B	Ι	D) None	of the above.		
8. Electric arc welding process produces ter	nperatur	e up to		[]
A) 1000°C B) 1500°C	B) 3500°	°C	D) 5550°C		
9. During spot welding the current flows fo	r			[]
A) Fraction of a minute to several minute	es I	B) Fraction	on of a second to sever	al seconds	
C) Few milliseconds	Ι	D) Few n	nicroseconds.		
0. During carbon arc welding				[]
A) Electrodes is connected to neutral if A	A.C. is us	sed		_	_
B) Electrode is not connected to any volt	age sour	ce when	A.C. is used		
C) Electrode is negative with respect to f	he work	if D C is	s used		
D) Electrode is negative with respect to t	he work		used.		
D) Electrode is positive with respect to the		II D.C. IS	useu.		
1. The purpose of coating on arc weiding ef	ectrodes	10 10		F	1
A) Stabilize the arc	-			[]
A) Stabilize the arc	I	B) Provid	le a protecting atmospl	[nere]
C) Provide slag to protect the molten met	I tal I	B) Provid D) All the	le a protecting atmospl e above	[nere]
C) Provide slag to protect the molten met 2. the processes based on the fact that electr	I tal I rical ener	B) Provid D) All the rgy can p	le a protecting atmospl e above roduce chemical chang	ere ges are cal] led
C) Provide slag to protect the molten met 2. the processes based on the fact that electr Processes.	I tal I rical ener	B) Provid D) All the rgy can p	le a protecting atmospl e above roduce chemical chang	[nere ges are cal [] led]
 C) Provide slag to protect the molten met 2. the processes based on the fact that electr Processes. A) Electrolytic B) Magnetic 	I tal I rical ener C) Elect	B) Provid D) All the rgy can p	le a protecting atmospl e above roduce chemical chang D) None of this	nere ges are cal] led]
 C) Provide slag to protect the molten met 2. the processes based on the fact that electric 2. The processes based on the fact that electric 3. Faraday's law states that the mass of The state state state that the mass of The state stat	I tal I rical ener C) Elect of a subst	B) Provid D) All the rgy can p crostatic tance libe	le a protecting atmospl e above roduce chemical chang D) None of this erated from an electrol	nere ges are cal [yte in a giv] led] ven
 C) Provide slag to protect the molten met 2. the processes based on the fact that electric 2. The processes based on the fact that electric 3. Faraday's law states that the mass of Time is proportional to the quantity of electric 	tal I rical ener C) Elect of a subst ectricity	B) Provid D) All the rgy can p crostatic tance libe passing t	le a protecting atmospl e above roduce chemical chang D) None of this erated from an electrol through the electrolyte	nere ges are cal [yte in a giv] led] ven]
 C) Provide slag to protect the molten met 2. the processes based on the fact that electr 2. The processes based on the fact that electr 3. Faraday's law states that the mass of Time is proportional to the quantity of electron based on the fact the process of electron based on the size of elect	H tal I rical ener C) Elect of a subst ectricity C) Both	B) Provid D) All the rgy can p crostatic tance libe passing t A & B	le a protecting atmospl e above roduce chemical chang D) None of this erated from an electrol hrough the electrolyte D) None of this	nere ges are cal [yte in a giv . [] led] ven]
 C) Provide slag to protect the molten met 2. the processes based on the fact that electric 2. The processes based on the fact that electric 3. Faraday's law states that the mass of Time is proportional to the quantity of electric A) Second B) First 4. In the process of electroplating the circuit 	I tal I rical ener C) Elect of a subst ectricity C) Both try invol	B) Provid D) All the rgy can p crostatic tance libe passing t A & B lyed is	le a protecting atmospl e above roduce chemical chang D) None of this erated from an electrol hrough the electrolyte D) None of this	nere ges are cal [yte in a giv . [] led] ven]
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 C) Provide slag to protect the molten met 2. the processes based on the fact that electrons 2. the processes based on the fact that electrons 2. the processes based on the fact that electrons 3. Faraday's law states that the mass of Time is proportional to the quantity of electrons A) Second B) First 4. In the process of electroplating the circuit A) Polarized C) Depends upon nature of plating 5. The existence of a counter electrode is of A) Plating vats B) Electrons D) Not 	I tal I rical ener C) Elect of a subst ectricity C) Both try invol I served s ctro-chen hing as a	B) Provid D) All the rgy can p crostatic tance libe passing t A & B lved is B) Non-F D) None some whe nical clea	le a protecting atmospl e above roduce chemical chang D) None of this erated from an electrol through the electrolyte D) None of this Polarized of above ere is the uning baths connected with the plat	nere ges are cal (yte in a giv [[[ing system] led] /en]]]

	QUESTION B	ANK 2	016
Plant is meant for		[1
A) Smoothing the effects of loads variation		L	1
B) Minimizing the ripple content of the D.C. supply	y		
C) To improve power factor and line regulation of t	the mains feeding the rectifier	system	
D) All as above	-	-	
37. Spongy coating of electroplating speaks of		[]
A) Under current density	B) Over current density		
C) Excessive electrolyte density	D) Poorer electrolyte den	sity	
38. The metal being deposited is available in form of		[]
A) Constituent of electrolyte	B) One of the electrodes		
C) Both as above	D) None out of above		
39. Chrome plating done as		[]
A) Primary layer B) Secondary layer	C) Tertiary layer	D) N	Jone
40. Polarization on cathode surface can be checked thro	ough	[]
A) Limiting current magnitude	B) Agitation of electrolyte	e	
C) Periodical reverse plating	D) All as above		

<u>UNIT –III</u>

ELECTRIC TRACTION - I

1. Which of the following motor is preferred for	traction work	[]	
A) Universal motor B) DC series motor				
C) Synchronous motor D) 7	Three phase induction m	otor.		
2. Main traction system used in India are using _	locomotives	. []	
A) Steam engine B) Diesel engine	C) Electric engines	D) All of the abo	ove	
3. Sub urban railways use	-]	1	
A) 1500 V DC B) 400 V, 3 phase AC	C) 330 V 3 phase A0	C D) 600 V 3 phase	e AC	
4. Long distance railways operate in	, I	, , , , , , , , , , , , , , , , , , ,	1	
A) 600 V DC B) 25 KV single phase AC	C) 25 KV 3 ph AC	D) 15 KV 3 ph A	AC Î	
5. The braking retardation for urban (or) sub urb	an service is]	1	
A) 1.5-2.5 KMPHS B) 3-4 KMPHS	C) 5-10 KMPHS	D) 0.5-1.5 KMP	HS	
6. Maximum horse power of steam locomotive i	s]]	
A) 100 B) 500	C) 1500	D) 2500	L	
7 In Kando system of track electrification	- is converted into	<i>D) 23</i> 00	1	
A) 1-phase AC DC	B) 3-phase AC 1- pl	hase ΔC	1	
C) 1-phase AC 3- phase AC	D) 3-phase AC DC			
8 The current collector which can be used at dif	ferent speeds under all w	vind conditions and	letiffnace	
of OHE is called	icicili specus under an w		1 501111055	
A) Trolley D) Dow	C) Pontograph	D) Massangar]	
A) Holley B) BOW	C) Faillograph	D) Messenger	1	
9. Long distance ranways use which of the follo A 220W D C	D) 25 VV 1 Dhasa A	C]	
A) 220 V D.C C) 25 KW 2 Dhasa A C	D) 25 KV 2 Dhase A	.C		
10 Speed of locomotive controlled by	D) 25 KV 5-Fliase A	С Г	1	
A) Elements al	\mathbf{D} $(\mathbf{C}, \mathbf{c}, \mathbf{r}, \mathbf{b}, \mathbf{c}, \mathbf{r})$	L]	
A) Flywheel		61		
C) Applying brakes	D) Regulating steam	now to engine	1	
11. In India diesel locomotives are manufactured	at C D 1]	
A) Ajmer B) Varanasi	C) Bangalore	D) Jabaipur	1	
12. For diesel locomotive the range of horsepowe	er 1s		J	
A) 50 to 200 B) 500 to 1000	C) 1500 to 2500	D) 3000 to 5000	1	
13 locomotive has the highest operational	availability.		1	
A) Electric B) Diesel	C) Steam	D) None of the a	bove	
14. The overall efficiency of steam locomotive is	around		J	
A) 5 to 10 percent B) 15 to 20 percent	t C) 25 to 35 percent	D) 35 to 45 perce	ent	
15. In tramways which of the following motor is	used?	l]	
A) D.C shunt motor	B) D.C series motor			
C) A.C 3-phase motor	D) A.C 1-phase capa	citor start motor		
16. In a steam locomotive electric power is provi	ded through	[]	
A) Overhead wire B) Battery system C) S	Small turbo generator D)	Diesel engine gen	erator	
17. Which of the following drives is suitable for	mines where explosive g	gas exists? []	
A) Steam engine B) Diesel engine	C) battery locomotiv	e D) Any of the ab	ove	
18. Electric locomotive in India are manufactured	d at	[]	
A) Jabalpur B) Bangalore	C) Chittranjan	D) Gorakhpur		
19. The wheels of a train, engine as well as bogie	es are slightly tapered to	[]	
A) Reduce friction B) Increase friction	n C) Facilitate braking	D) Facilitate in ta	aking turns	
20. The efficiency of diesel locomotives is nearly	/	[]	
A) 20 to 25 % B) 30 to 40 %	C) 45 to 55%	D) 60 to 70 %		
21. The speed of a superfast train is		[]	
		-	D. 1	
Name of the Subject			Page 1	

QUESTION BANK 2016 B) 75 kmph C) 100 kmph D) More than 100 kmph A) 60 kmph 22. Which of the following state capitals is not on broad gauge track? A) Lucknow B) Bhopal C) Jaipur D) Chandigarh 23. Which of the following is the advantage of electric braking? B) Motor continues to remain loaded during braking A) It avoids wear of track C) It is instantaneous D) More heat is generated during braking 24. Which of the following braking systems on the locomotives in costly? A) Regenerative braking on electric locomotives B) Vacuum braking on diesel locomotives C) Vacuum braking on steam locomotives D) All braking systems are equally costly 25. For given maximum axle load tractive efforts of A.C locomotive will be A) Less than that of D.C. locomotive B) More than that of D.C locomotive C) Equal to that of D.C. locomotive D) None of the above 26. Co-efficient of adhesion reduces due to the presence of which of the following? 1 A) Send on rails B) Dew on rails C) Oil on the rail D) Both (B) and (C) 27. Co-efficient of adhesion is] A) High in case D.C. traction than in the case of A.C. traction B) Low in case D.C. traction than in the case of A.C. traction C) Equal in both A.C and D.C. traction D) Any of the above 28. The rate of acceleration on Suburban or urban services is restricted by the Consideration of 1 A) Engine power B) Track curve C) Passenger discomfort D) Track size 29. The friction at the track is proportion to 1 B) $1/(\text{speed})^2$ C) Speed D) None of the above A) 1/speed 30. The air resistance to the movement of the train is proportion to B) $(speed)^2$ C) $(Speed)^3$ A) speed D) 1/speed 31. The normal value of adhesive friction is] C) 0.40 B) 0.25 D) 0.70 A) 0.12 32. The pulsating torque exerted by steam locomotives causes which of the following? 1 A) Jolting and skidding B) Hammer blow C) Pinching D) All the above 33. Which of the following braking system is used on steam locomotives? 1 A) Hydraulic system B) Pneumatic system C) Vacuum system D) None of the above 34. Vacuum is created by which of the following T A) Vacuum pump B) Ejector C) Any of the above D) None of the above 35. The resistance encountered by a train in motion is on account of Γ 1 A) Resistance offered by air B) Friction at the track C) Friction at various part of the rolling stock D) All of the above 36. Battery operated trucks are used in 1 ſ A) Steel mills B) Power station C) Narrow gauge traction D) factories for material transportation 37. ----- method can bring the locomotive to dead stop A) Plugging braking B) Rheostat braking C) Regenerative braking D) None of the above 38. The values of co-efficient of adhesion will be high when rails are C) Sprayed with oil D) Cleaned with sand A) Greased B) Wet 39. The number of passenger coaches that can be attached to a diesel engine locomotive on broad gauge is usually restricted to 1 A) 5 **B**) 10 D) 17 C) 14 40. The voltage used for suburban trains in D.C. system is usually 1 A) 12V B) 24V C) 220V D) 600 to 750 V Prepared by: K. BABU

<u>UNIT –IV</u>

ELECTRIC TRACTION - II

1.	Area under the speed time cu	rve represents	B) Average speed		[]	
	C) Average acceleration		D) None of the above	is true			
2 '	The speed of train estimated	taking in to account	the stoppage time at a	station in addit	tion to	the	
	Actual running time betwee	en stop is called the	speed.		[]	
	A) Average B) Schedule	C) Free running	D) Notching	L	1	
3. '	The average speed of a train	is independent of	-)8	8	[1	
	A) Duration of stop		B) Acceleration and b	raking retardat	ion	1	
	C) Distance between stops		D) Running time	8			
4. '	The schedule speed of a give	n train when runnin	g in a given service (w	ith given distar	ce bet	ween	
	Stations) is affected by			0	[]	
	A) Acceleration and braking	g retardation	B) Maximum (or) cres	st speed			
	C) Duration of stop	-	D) All of above	-			
5.	Skidding of a vehicle always	occurs when			[]	
	A) Braking effort exceeds its	s adhesive	B) Brake is applied su	ddenly			
	C) It negotiates a curve		D) It passes over point	t and crossing			
6. '	The speed time curve for urb	an services has no			[]	
	A) Coasting period		B) Free running period	l			
	C) Braking period		D) Acceleration period	d			
7. 1	Free running and coasting pe	riods are generally l	ong in case of		[]	
	A) City service		B) Sub urban service				
	C) Main line service		D) Outer sub urban se	rvice			
8.	In sub urban services as com	pared to urban servi	ces		[]	
	A) The coasting period is lon	nger					
	B) The coasting period is sm	haller but free runnir	ig period is longer				
	C) The coasting and free run	ining periods are sm	aller				
0 '	D) None of the above is true						
9.	A) Main line convice) Urban correction	C Sub urban service	S D) Umban/aub	l		
10	A) Main file service B) Utball service	C) Sub urban service	D) UIDall/Sub	r r	service	
10.	A) Urban service B	Sub urban service	C) Urban/sub urban so	ruico D) Ma	l in lina	J	
11	A typical active load is) Sub urban service	C) Ofbail/Sub ufbail Se	fivice D) wia			
11.	A) Hoist B)) Blower	C) Pump	D) Lathe	L]	
10	An elevator drive is required		C) I unip	D) Latite	г	1	
12.	An elevator drive is required	l) Two guadranta	C) Three quedrants	D) Equation of the	l]	
10	A) One quadrant B		C) Three quadrants	D) Four quadr	r		
13.	The basic element of an elec	tric drives are			L]	
	A) Electric motors and trans	mission system					
	B) Electric motors, transmis	sion and control sys	tem				
	C) Transmission and control	l system					
	D) Electric motors and conv	ersion equipment					
14.	A DC series motor is used for	or an over hauling lo	oad. It can work stably	if	[]	
	A) The armature is shunted	by a resistor	B) The field winding i	s reverse			
	C) A resistor is put in series	with a machine	D) A diverter is put ac	cross the field			
15.	Which motor should not be	used for centrifugal	pumps?		[1	
	A) Shunt		B) Series		•	L	
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C) Cumulatively compound	D) Differential com	pound	
16. In sub urban trains the train motors are installe	d in	[1
A) Locomotive only	B) locomotive and c	coaches	L
C) Coaches only	D) A & B		
17. The type of DC motors used in electric traction	n is	ſ	1
A) Series motors B) Shunt motors	C) Separately excite	d motors D) None	L
18. The type of braking used in electric traction is	-, <u>1</u> ,,,,,,,,,,,	[1
A) Mechanical braking	B) Vacuum brake sy	/stem	1
C) Electro pneumatic braking	D) Both B & C		
19 The normal value of coefficient of adhesion is	_)	1	1
A) 0.25 B) 0.35	C) 0.5	D) 0.65	1
20 Specific energy consumption is Maximum in	services	s [1
A) Urban B) Sub urban	C) Mainline	D) None	1
21 Specific energy consumption is affected by	-,	,	1
A) Acceleration and retardation value	B) The crest speed a	and nature of route	J
C) Distance between stops	D) All of the above		
22 Parallel operation of traction motors is easier w	with	r	1
A) DC shunt motors	B) DC series motors	, L	1
C) Induction motors	D) None of these)	
C) induction motors 22.44 ± 1.14	D) None of those	1 1 .	41
23. A train has a schedule speed of 36 km per hour	on a level track. If the	e distance between	the
Stations is 2 km and the stoppage is 30 second	ds the actual time of ru	in will be]
A) 260 seconds B) 230 seconds	C) 200 seconds	D) 170 seconds.	
24. Ward – Leonard controlled DC drive are gener	ally used for	excavators. []
A) Light duty B) medium duty	C) heavy duty	D) All the above	
25. The constant k is given by		[]
A) $k=1/\alpha - 1/\beta$ (B) $k=\alpha+\beta$	(C) $k=2\alpha+2\beta$	(D) $k = 1/2(1/\alpha +$	1/β)
26. Specific energy consumption is least in	service	[]
A) Mainline B) Urban	C) Sub urban	D) None	
27 was the first city in India to adopt electr	ric traction.]]
A) Delhi B) Madras	C) Calcutta	D) Bombay	-
28. Power for lighting passenger coach, in a long c	listance electric train.	is provided [1
A) Directly through overhead electric line			1
B) Through individual generator of bogie and	hatteries		
C) Through rails	batteries		
C) Through Ians			
D) Inrough locomotive	, , . ,	r	1
29 frequency is not common in low frequ	ency traction system	l	J
A) 40 Hz B) 25 Hz	C) 16 🖥 Hz	D) None	
30 For 25ky single phase system power supply fre	auency is	1	1
50. For 25kV single phase system power suppry ne		$D 1 c^2 U$	1
A) 60 HZ B) 50 HZ	C) 25 Hz	D) 16 – Hz	
31. In India, electrification of railway track was do	one for the first time in	which of the follow	wing
years?]	-
A) 1820 - 1825 B) 1880 - 1885	C) 1925 - 1932	D) 1947 - 1954	-
32. Suri transmission is	-,]	1
		L	1
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A) Electrical Proumatic		B) Machanical Ele	otrical			
A) Electrical – Pheumatic		B) Mechanical – Electrical				
C) Hydro – Mechanical		D) Hydro – Mechanical				
33. If the co-efficient of adi	tesion on dry rails is 0.	26, which of the follow	ving could be t	ne valu	e for wet	
rails?		0.0.005	\mathbf{D}	l	J	
A) 0.3	B) 0.26	C) 0.225	D) 0.16			
34 watt – hours per f	conne km is usually the	e specific energy consu	mption for sub	ourban	_	
sevices.				[]	
A) 15 – 20	B) 50 – 75	C) 120 – 150	D) 160 – 20	0		
35. The braking retardation	is usually in the range			[]	
A) 0. 15 to 0.30 kmphp	s B) 0.30 to 0.6 kmph	psC) 0.6 to 2.4 kmphp	s D) 3 to 5 km	ıphps		
36. Automatic signaling is	used for which of the fo	ollowing trains?		[]	
A) Mail and express tra	in	B) Superfast train				
C) Suburban and urban	D) All trains					
37. Quadrilateral, speed- time curve pertains to which of the following services?				[]	
A) Main line services		B) Urban services				
C) Suburban services		D) Urban and Subu	Irban services			
38. For three – phase induction motors which of the following is the least efficient method of speed						
control?		-]]	
A) Cascade control		B) Pole changing		-	-	
C) Rheostat control	D) Combination of cascade and pole changing					
39. Specific energy consum	ption becomes	,	1	, J	1	
A) More on stepper gra	dient	B) More with high t	rain resistance	L	1	
C) Less if distance bety	D) All the above					
40 The return circuit for train cars is through				ſ	1	
A) Neutral wire	B) Rail	C) Cables	D) Commor	L 1 earthir	י זער	
rij noutur who	D _j Kun	C) Cubics		· cui uilli	' 5	

QUESTION BANK 2016 UNIT –V ECONOMIC ASPECTS OF UTILISING ELECTRICAL ENERGY 1. Maximum demand controller is used to -----[] A) Switch off essential loads in a logical sequence B) Exceed the demand of the plant C) Switch off non-essential loads in a logical sequence D) Controls the power factor of the plant 2. Capacitors with automatic power factor controller when installed in a plant: 1 ſ A) Reduces active power drawn from grid B) Reduces the reactive power drawn from grid C) Reduces the voltage of the plant D) Increases the load current of the plant controls the power factor of the installation by giving signals to switch on or off power 3. factor correction capacitors. 1 ſ A) KILOVAR B) Automatic power factor control relay D) Maximum demand controller C) Intelligent power factor controller 4. _____ determines the rating of capacitance connected in each step during the first hour of its operation and stores them in memory. Γ 1 A) Maximum demand controller B) Intelligent power factor controller C) Automatic power factor controller D) KILOVAR 5. The following function cannot be achieved with automatic power factor controllers. ſ 1 A) Voltage control B) KILOVAR control C) kW control D) PF control 6. The following features apply to energy efficient motors by design:] ſ A) Energy efficient motors last longer B) Starting torque for efficient motors may be lower than for standard motors C) Both (A) and (B) D) None 7. Eddy current drive can be a retrofit for _____ 1 A) Constant speed system requirement B) Variable speed system requirement C) Dual speed system requirement only D) None of the above 8. Electronic variable frequency drive (VFD) connected to motors: A) Provide variable speed with high efficiency B) Induces eddy-current in the secondary member of the clutch mechanism C) Is not suitable for variable torque load D) Does not provide variable speed and has low-efficiency 9. Variable speed cannot be obtained with] [A) DC motors controller B) AC motor controller C) Soft starter controller D) AC & DC controllers 10. Energy savings potential of variable torque applications compared to constant torque application is: Γ 1 A) Higher B) Lower B) Equal D) None of the above 11. As an energy efficient application, slip power recovery system fits well for [1 A) Squirrel cage and slip ring motors B) DC motor C) Slip ring motors only D) None of the above 12. Energy efficient transformer core is made up of _____ Γ 1 A) Silicon alloyed iron (grain oriented) B) Copper

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() Amorphous core metallic class allow	D) None of the shows				
C) Amorphous core - metallic glass alloy D) None of the above					
A) To ignite the lamp	B) To stabilize the gas discharge				
C) To reduce luman output of the lamp	D) To supply power to the lamp				
14 Select the application of fluid coupling fitting f	<i>D)</i> To suppry power to the famp				
14. Select the application of fluid coupling fluing f	D) Enchles no load stort yn of prime meyer				
A) Acts as a voltage limiter	B) Enables no-load start-up of prime-mover				
C) works on the principle of eddy current	D) None of the above				
15. The characteristic of conventional ballast in lig	nting application is one among the				
Iollowing					
A) They have low operational losses than electric	ronic ballasts.				
B) They have tuned circuit to deliver power at .	25 Hz				
C) They do not require a mechanical switch (sta	arter)				
D) They have high operational losses and high	temperature rise				
16. Application of occupancy sensors is well suited	l for				
A) Day light based controllers	B) Night based controllers				
C) Motor controllers	D) Movement or noise detector in room space				
17. Find the odd retrofit group from the following					
A) Occupancy sensors	B) Timer based control				
C) Photo sensors	D) Capacitor based control				
18. Application of timers as a retrofit will assist in	saving energy in areas of []				
A) Lighting & motors B) Transformers	B) HV- Feeder Panels D) All the above				
19. Electronic soft starters are used for motors to	[]				
A) Achieve variable speed	B) Provide smooth start and stops				
C) Improve the loading	D) None of the above				
20. Energy efficient lighting can be planned by using	ng the following retrofits. []				
A) Photo-sensor B) Timer	C) Occupancy sensor D) Localized switching				
21. Which of the following power plants is the leas	t reliable []				
A) Wind B) Tidal	C) Geothermal D) Diesel				
22. Which of the following power plants is the leas	t reliable []				
A) Wind B) Hydro-electric	C) Steam D) Diesel				
23. Major advantage of waste heat recovery in indu	ıstry is []				
A) Reduction in pollution	B) Increase in efficiency				
C) Both A & B	D) None of the above				
24. Heat recovery equipment will be most effective	e when the temperature of flue gas is []				
A) 250° C B) 200° C	C) 400° C D) 280° C				
25. The waste gases coming out from gas turbine e	xhausts are of the order of []				
A) 370-540 B) 450 – 700	C) 700-800 D) 250-440				
26. Recuperator is used mainly as a waste heat reco	overv system in a []				
A) Boiler	B) Billet Reheating Furnace				
C) Compressor	D) None of the above				
27 Recuperator will be more efficient if the flow n	with of hot and cold fluids is in [1]				
A) Co-current mode	B) Counter current mode				
C) Cross current mode	D) None of the above				
28 Economizer is provided to utilize the flue gas h	eat for []]				
A) Drobasting the bailer feed water	D) Drahaating the steel				
C) Probasting the combustion sir	D) Prohosting fuel				
20 A discal nerver plant is best suited as					
29. A diesel power plant is best suited as	C) Dealy load mlant D) Concerci murmage mlant				
A) Dase load plant B) Stand-Dy-plant	C) reak load plant D) General purpose plant				
30. The efficiency is secondary consideration in ca	St UI [] C) Doth (A) and (D) D) Mana $-f(t) - t$				
A) reak load plant B) Base load plant	C) Dotti (A) and (B) D) None of the above				
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31. Which plant can never	have the 100 percent loa	D) Dece load plant		L.]
A) Peak load plant		B) Base load plant			
22 Load factor of a power	station is defined as	D) Hydro electric po	wei plain	г [.]	1
A) Maximum demand / Average load		B) Average load \times M	laximum demand	L.	1
C) Average load / Maximum demand		D) (Average load × Maximum demand) ^{$1/2$}			
33. Which of the following	is the essential requirer	nent of peak load plant	t?	G I	1
A) It should run at high speed		B) It should produce high voltage			1
C) It should be small in	size	D) It should be capable of starting quickly			
34. The efficiency of a plan	t is of least concern wh	en it is selected as		[]
A) Peak load plant	B) Casual run plant	C) Either (A) or (B)	D) Base load pl	lant	
35. The voltage at which pe	erformance operating ch	naracteristics of appara	tus are referred	[]]
A) Nominal voltage	B) Rated voltage	C) Service Voltage	D) Base voltage	e	
36. Switched capacitor ban	k is installed for			[]
A) Max. load condition	S	B) Min. load condition	ons		
C) For both (A) and (B)	D) None			
37. I $\cos \Phi$ in phase with V	is known as in po	ower triangle.		[]
A) Active component		B) Passive component	nt		
C) Reactive component		D) None			
38. Arc lamps, electric disc	harge lamps operate at	lagging power factor	r.	[]
A) High	B) Low	C) Zero	D) None of the	ese	
39. The value to which p.f should be improved so as to have maximum net annual savings is					
known as	_		_	[]
A) Active power	B) Reactive power	C) Most economical	pf D) None of th	iese	
40. Voltage control means		,		· ٦	1
A) Boosting the feeder	voltage				-
B) Reducing the line voltage during overvoltage conditions					
C) Maintaining the voltage level within the allowable limits					
D) None of the above					