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Sl. No. :	10000021		•	•			A	M	11	3/ 3	17
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 $Number \mid \ \mid \ \mid \ \mid$

2017

AUTOMOBILE AND MECHANICAL ENGINEERING (Degree Standard)

Time Allowed: 3 Hours]

[Maximum Marks: 300

Read the following instructions carefully before you begin to answer the questions.

IMPORTANT INSTRUCTIONS

- 1. The applicant will be supplied with Question Booklet 10 minutes before commencement of the examination.
- 2. This Question Booklet contains 200 questions. Prior to attempting to answer the candidates are requested to check whether all the questions are there and ensure there are no blank pages in the question booklet. In case any defect in the Question Paper is noticed it shall be reported to the Invigilator within first 10 minutes and get it replaced with a complete Question Booklet. If any defect is noticed in the Question Booklet after the commencement of examination it will not be replaced.
- Answer all questions. All questions carry equal marks.
- 4. You must write your Register Number in the space provided on the top right side of this page. Do not write anything else on the Question Booklet.
- 5. An answer sheet will be supplied to you, separately by the Invigilator to mark the answers.
- 6. You will also encode your Register Number, Subject Code, Question Booklet Sl. No. etc. with Blue or Black ink Ball point pen in the space provided on the side 2 of the Answer Sheet. If you do not encode properly or fail to encode the above information, action will be taken as per commission's notification.
- 7. Each question comprises four responses (A), (B), (C) and (D). You are to select ONLY ONE correct response and mark in your Answer Sheet. In case you feel that there are more than one correct response, mark the response which you consider the best. In any case, choose ONLY ONE response for each question. Your total marks will depend on the number of correct responses marked by you in the Answer Sheet.
- 8. In the Answer Sheet there are four circles (A), (B), (C) and (D) against each question. To answer the questions you are to mark with Ball point pen ONLY ONE circle of your choice for each question. Select one response for each question in the Question Booklet and mark in the Answer Sheet. If you mark more than one answer for one question, the answer will be treated as wrong. e.g. If for any item, (B) is the correct answer, you have to mark as follows:

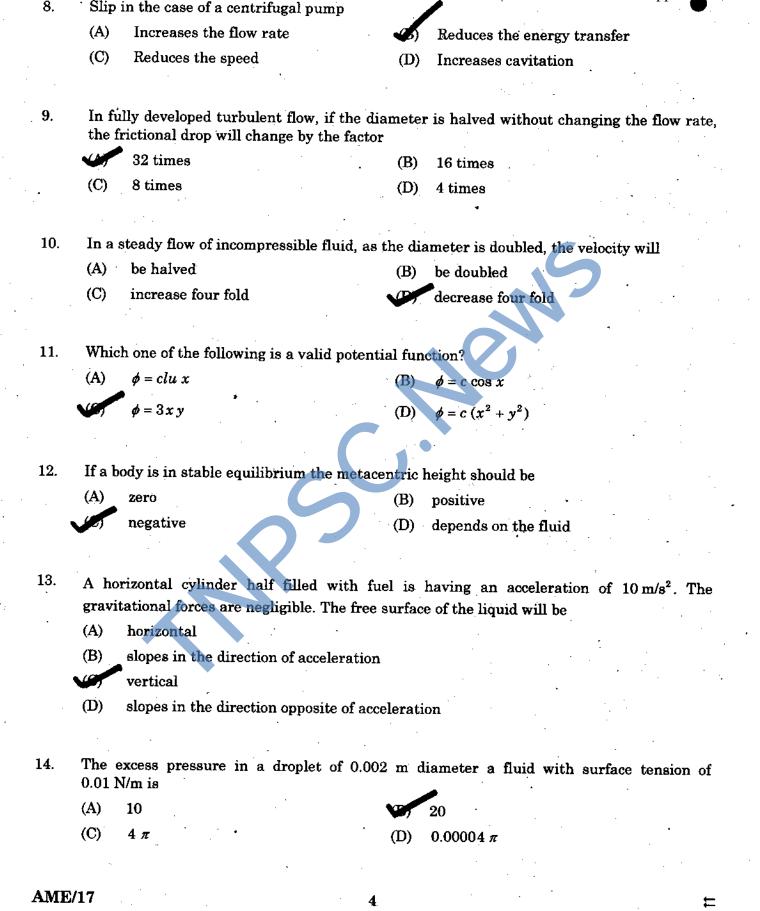
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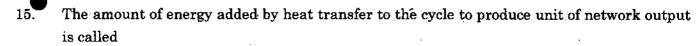
- 9. You should not remove or tear off any sheet from this Question Booklet. You are not allowed to take this Question Booklet and the Answer Sheet out of the Examination Hall during the examination.

 After the examination is concluded, you must hand over your Answer Sheet to the Invigilator. You are allowed to take the Question Booklet with you only after the Examination is over.
- 10. The sheet before the last page of the Question Booklet can be used for Rough Work.
- 11. Do not tick-mark or mark the answers in the Question Booklet.
- 12. Failure to comply with any of the above instructions will render you liable to such action or penalty as the Commission may decide at their discretion.

1.	The	vehicle moving on a level circula	r path will e	xert pressure such that	
	(A)	The reaction on the outer whe	els will be mo	ore	•
•	(25)	The reaction on the inner whe	els will be me	ore	
	(C)	The reaction on the wheels are	e equal		
	<u>(</u> D)	The reaction depends upon the	e speed of wh	eel	
2.	_	a spring mass system, the frequence similar spring is added in s		tion is ' N ' what will be	the frequency when
	(A)	N/2		$N/\sqrt{2}$	
	(C)	$\sqrt{2}/N$	(D)	2N	
0	1177. ·	1	.:41. 41	:-1 6	
3.		ling speed of a shaft coincides w	ith the natur		
	(A)	Longitudinal vibration Torsional vibration	(D)	Transverse vibration	onal vibration
	(C)	Torsional vibration	(D)	Coupled bending-tors	onai vioration
		•			
4.	Cond	luctivities of semi conductors rai	nge from		<i>,</i>
	·	10 ⁻⁹ to 10 ⁴ ohm ⁻¹ cm ⁻¹	(B)	10 ⁻⁸ to 10 ³ ohm ⁻¹ cm ⁻	1 [']
	(C)	10 ⁻⁷ to 10 ⁴ ohm ⁻¹ cm ⁻¹	(D)	10 ⁻⁹ to 10 ³ ohm ⁻¹ cm	1
	Volo	city factor is used to take care of		•,	
5.	(A)	effect of high velocity	/P	possibility of fatigue f	oiluro
	(C)	possibility of high wear	(D)	pitting	allule
	(0)	possibility of high wear	(D)	promig	*
					· .
6.	Sing	le plate clutch is used in	•	·	
	4	four wheelers	100		•
	(B)	two wheelers			
	(C)	mopeds	•	•	
	(D)	applications where initial torq	ue is high		•
			•		
7.	Shor	t shoe brakes have a angle of co	ntact less tha	n.	
		10°		20°	

(D) 45°





4	Heat	rate
	LLUMU	

(B) Work ratio

(C) Back work ratio.

- (D) Thermal efficiency
- 16. The value of dryness fraction at critical point for water-steam phase transformation may be
 - (A) 0

(B) 1

(C) either 0 (or) 1

- all of these
- 17. For a reversible engine cycle, the clausius inequality says,

(A)
$$\oint \frac{dQ}{T} > 0$$

(B)
$$\oint \frac{dQ}{T} < 0$$

$$\oint \frac{dQ}{T} = 0$$

(D)
$$\frac{dQ}{du} + du = 0$$

- 18. If carnot engine rejects heat at temperature of 400 K and accepts at 750 K. What shall be heat absorbed, if heat rejected is 1000 KJ
 - (A) 946 KJ

(B) 800 KJ

1875 KJ

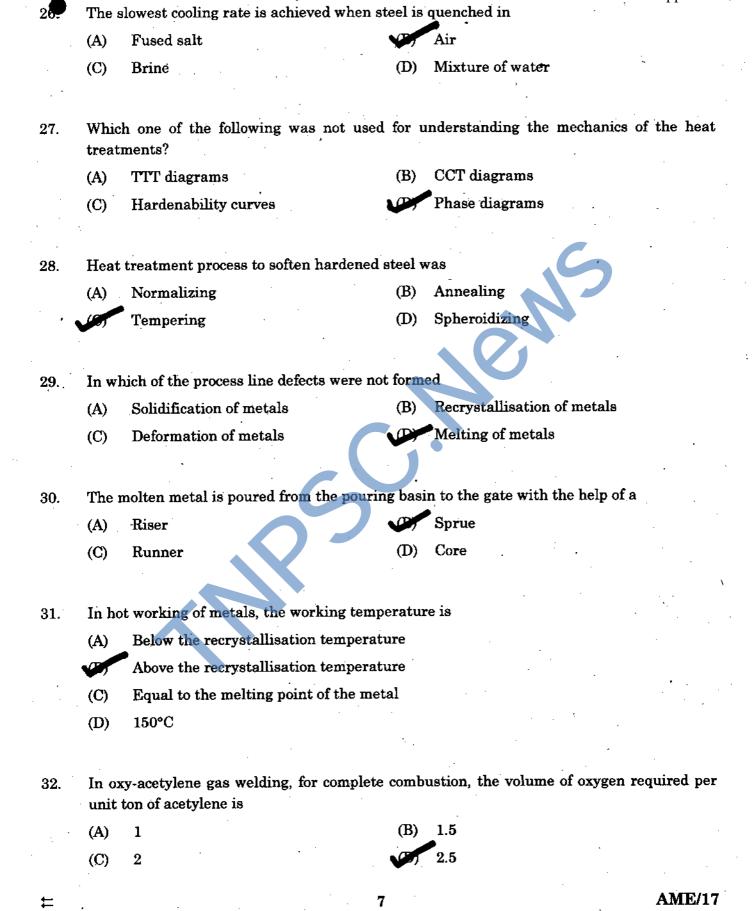
- (D) 750 KJ
- 19. Latent heat of vaporization of water at critical point is
 - (A) 334 J/Kg

(B) 234 J/Kg

(C) 334 KJ/Kg

- Zero
- 20. In reference to Thermodynamic equilibrium, it is required to have,
 - (A) Mechanical Equilibrium
 - (B) Chemical Equilibrium
 - (C) Thermal Equilibrium
 - Mechanical, Chemical and Thermal Equilibrium

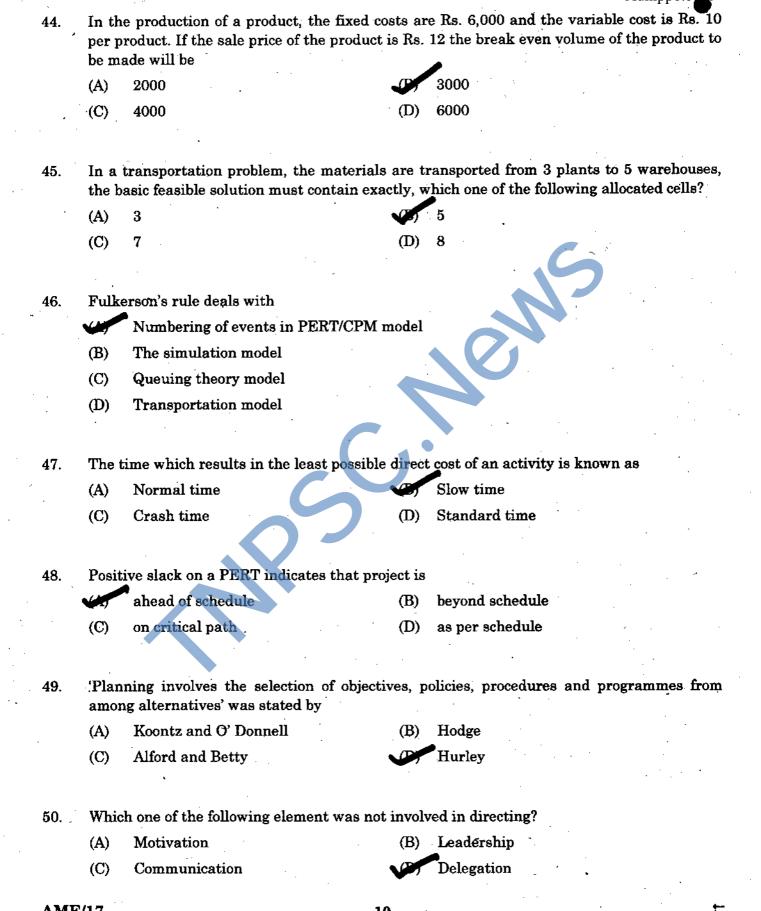
21.	Free convection flow depends on all	of the following EXCEPT
	(A) Density	(B) Coefficient of viscosity
	(C) Gravitational force	(D) Velocity
22.	For a current wire of 20 mm di	ameter exposed to air $(h = 20 \text{ W/m}^2\text{K})$, maximum heat
	dissipation occurs when thickness o	of insulation $(K = 0.5 \text{ W/mK})$ is,
	(A) 20 mm	25 mm
	(C) 28 mm	(D) 10 mm
		.6
23.	Match List I with List II and select	the correct answer using the codes given below:
	List I	List II
	(a) Momentum transfer	1. Thermal diffusivity
	(b) Mass transfer	2. Kinematic viscosity
	(c) Heat transfer	3. Diffusion co-efficient
	(a) (b) (c)	
	2 3 1	
	(B) 1 3 2	
	(C) 3 2 1	
. •	(D) 1 2 3	
0.4	4 4 11 11 6 4 4 1 1 1 1 1 1	
24.		ecific heat 0.4 KJ/kg is at a temperature of 60°C. It is The final steady state temp of water is,
•	23.5°C	(B) 30°C
	(C) 35°C	(D) 40°C
25 .	Hardening by carburizing is limited	d to
	(A) 0.05 mm	(B) 0.1 mm
··· .	2 mm	(D) 5 mm

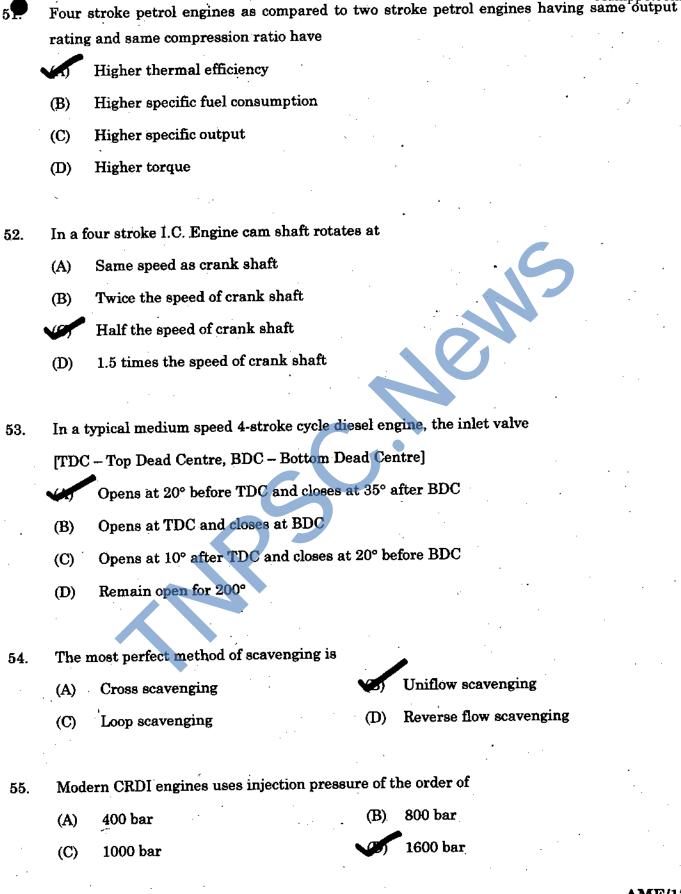


		List I				List II	
	(a)	Seiko)	• .	1.	Orderliness	s · · · · ·
	(b)	Seike	etso		2.	Clean up	
	(c)	Seiso	ı		3.	Personal cle	eanliness
	(d)	Seito	n .		4 .	Proper arra	ngement
		(a)	(b)	(c)	(d)		
	W	4	3	2	1		
	(B)	4	3	1	2		.6
	(C)	3	4	2	1		
	(D) .	1	3	2	4		
34.	A los		-	·	· -		
34 ,	(A)		urate me gauge	asuring	device	was (B)	Micromoton coneus cours
		_	l rule			(B)	
		•		•			- P
35.	Grat	ings aı	re used i	n connec	tion wi	th	
						(B)	Roundness measurement
	(A)	Flati	ness mea	isureme		_,	regrigites megagiement
	(A) (C)		ness mea ace texti				Linear displacement
36.	(C)	Surf	ace textu	ıre			
36.	(C) Whice	Surface h of the Spec	ace textue e followitrophoto	ing meth	nods is r		Linear displacement
36.	(C)	Surface h of the Spec	ace textu	ing meth	nods is r	not concerned	Linear displacement with the surface finish measurement?
	(C) Whice (C)	Surface th of the Spec Field	ace texture following trophoton	ing methometry m	nods is r nethod	not concerned (B)	Linear displacement with the surface finish measurement? Ultrasonic method
36. 37.	(C) Whice (C)	Surface th of the Spec Field	e followitrophotol emission	ing methometry method	nods is rethoded	not concerned (B)	Linear displacement with the surface finish measurement? Ultrasonic method
	(C) Whice (C) A rin	Surface th of the Spec Field g gaug	e followitrophotol emission	ing methoder metry metry methoder methoder only	nods is rethoded	not concerned (B)	Linear displacement with the surface finish measurement? Ultrasonic method
	(C) Whice (C) A rin (B)	Surface th of the Spec Field g gaug Outs Roun	e following is used ide diam	ing methoder metry metro methoder deteronle	nods is received	not concerned (B) (D)	Linear displacement with the surface finish measurement? Ultrasonic method
	(C) Whice (C) A rin	Surface h of the Spec Field Outs Round Both	e following is used ide diam	ing method metry metry method to mean meter onlindy	nods is rethoded sure y	not concerned (B)	Linear displacement with the surface finish measurement? Ultrasonic method

⊭

38.	Exte	nded Binary – coded decimal intercha	nge cod	le uses	-
	THE PARTY OF THE P	8 – bit code	(B)	16 – bit code	
	(C)	32 – bit code	(D)	7 – bit code	:
			•	•	•
39 .	Loca	lizing an object in an image and select	tively a	nalyzing the object in a series of	redundant
		rs is known as			
	(A)	Maxwell pyramid	(B)	Faraday pyramid	
	(0)	Gaussian pyramid	(D)	Turning test	· .
	· · ·			46	
40 .	CAE	and CAM are linked through			
	-	A Common database and communic	ation sy	ystem	
	(B)	NC tape programming and automat	ed desi	gn.	· .
	(C)	Assembly automation and tool produ	iction		:
	(D)	Parts production and testing			
	•				
41 .	Flexi	ible manufacturing allows for			
	(A)	Automated design			
	(B)	Factory management			
	(C)	Tool design and tool production			
		Quick and inexpensive product chan	ges		,
	•		9		
42.	Callie	graphic is	-		
· .	(A)	coloured image	(B)	coloured drawing	
	(11) • (C)	line drawing	(D)	dot matrix	
		inc drawing	(D)	dot matrix	
4 3.		botics, precision of movement is a con ely spatial resolution, repeatability an		ssue and it is described as three	attributes
	(A)	soundness	_ 	accuracy	· .
	(C)	speed	(D)	sensation	•
•	(0)	specu	(1.7)	основнон	

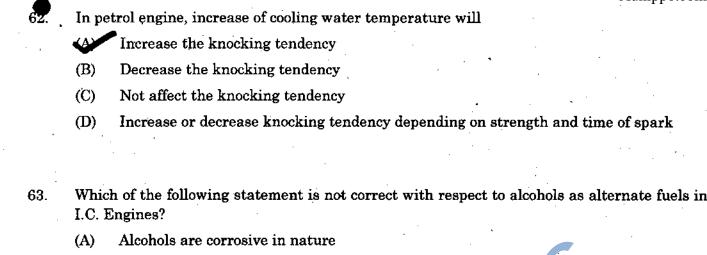


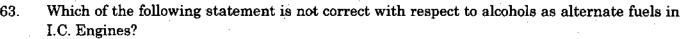


30.	shai	ts speeds.	o otner	shalts with equal efforts	s at three differ
	(A)	Universal joint	(B)	Stub axles	-
	4	Differential	(D)	Axle housing	
		•	•		
57 .	The	parking brakes employed in vehicles	are ope	rated	
	41)	Mechanically	(B)	Hydraulically	
	(C)	Pneumatically	(D)	Electronically	
				15	
58.	The	operation of removing trapped air fro	m the h	ydraulic braking system	is known as
	(A)	Trapping	(B)	Tapping	
	(O)	Bleeding	. (D)	Cleaning	: *
59.	Whic	ch of the following chassis layout is fi	tted wit	h transfer case?	
	(A)	Front engine – Front wheel drive		ii dansici case.	
	(B).	Rear engine – Rear wheel drive			
	40	Front engine – All wheel drive			
	(D)	Front engine - Rear wheel drive	•		
			-		
60.	The s	slots or openings in a disc wheel enha	nces		
	(A)	Vehicle body cooling	(B)	Passenger compartmen	t cooling
-	<u>(</u> C)	Engine – Radiator cooling	1	Brake system cooling	<i>:</i>
		•			
61.	Air b	rakes are mostly used in case of			, '
	(A)	Cars	(B)	Jeeps	
	NO	Trucks	(D)	Three-wheelers	•
				·	

12

AME/17





- Alcohol contains about half the heat energy of gasoline **(B)**
- Auto-knock characteristics of alcohol is poor
- Alcohol does not vaporize as easily as gasoline (D)

(A) $\cdot 70 - 80^{\circ} \text{ C}$

80 – 85° C

85 – 95° C (C)

Above 100° C

- Fixed Caliper, Tab-Action and Two-Piston (A)
- Fixed Caliper, Sliding Caliper and Floating Caliper
- (C) Floating Caliper, Swinging Caliper and Proportioning Caliper
- Fixed caliper, floating caliper and Swinging caliper **(D)**

66. Free pedal play in car clutches is about

3 mm

(B) $300 \, \mathrm{mm}$

30 mm

(D) 60 mm

The co-efficient of friction for the clutch facing is approximately 67.

0.1 (A)

(C) 0.8 1.2

68 .		torque transmitting capacit nal diameter 'D' and its spe		ng [T] for a given sli	p varies with impeller
	(A)	$I \propto D^3 N^2$	(B)	$I\!\propto\!D^3N^3$	
	(C)	$I\!\propto\!D^5N^5$		I∝D ⁵ N ²	
	• .				
	-	·			
69 .		•	rear wheel house	e panel, the floor par	nel and the rear of the
		er panel in a car.	,		1
	(A)	Rear doors	(B)	Rear windows	
	(6)	Rear quarter panels	(D)	Trunk lid	
70.	will i	nician A says, the convention be increased. Technician B I. Out of these.			_
	(A)	A is correct			
	(D)	B is correct			
•	(C)	Both A and B are correct			
	(D)	Neither A nor B are correc	et		
71.	Acute	e angles between backrest a	nd seat squab re	sults in	· ·
	(A)	Compressed thorax	(B)	Numness in arms	
	(0)	Thigs press on the stomac	h (D)	Numness in feet	
		•			
72 .	Whic	h one of the following is inc	orrect with respe	ct to painting of vehi	cles?
	V.	Paints creates a thermal b	oundary layer or	the surface	
	(B)	Paints prevents rapid corr	osion of parts	-4.	
	(C).	Paint colour increases the	ability to be seen	1	•

(D)

Paint colour increases the aesthetic look

75.	In vi	iscous damping, the damping force is -		the velocity of vibrating body.
	4	Proportional to	(B)	Inversely proportional to
	(C)	Square of	(D)	Cube of
74.	The	ratio of damping constant to the critic	al dam	ping constant is called as
	(A)	Logarithmic decrement	(D)	Damping ratio
;	(C)	Magnification factor	(D)	Transmissibility ratio
75.	Cons	eider the following degrees of freedom	-	
	(i)	Pitch	•	
	(ii)	Roll		
	(iii)	Xaw		
	The	DOF which is not included in half car	model	is
	(A)	(i) and (ii)	(B)	(i) and (iii)
	9	(ii) and (iii)	(D)	(i), (ii), (iii)
76.		within ———— range of its	-	rol system influence the motion of vehicle's frequency.
	ريان	1 to 2 Hz	(B)	5 to 10 Hz
	(C)	20 to 30 Hz	(D)	50 to 100 Hz
	(0)		(-)	
77.	The	unit of understeer coefficient is		
		Radian	(B)	MM/MM
	(C)	N/M	(D)	M
		·		
78.		The state of the s	arge pro viour.	oportion of the vehicle weight on front tyres
	(A)	Reverse steer	(D)	Under steer
	(C)	Neutral steer	(D)	Over steer

79. What are the gain and natural frequency of the following system transfer function?

$$G(S) = \frac{36}{S^2 + 3S + 36}$$

(A) 36, 6

(B) 6, 6

6

1, 6

(D) 6, 1

80. To implement the derivative term, we usually use a low-pass filter. The time constant of a low-pass filter should be

much smaller than the derivative time constant

- (B) much smaller than the integral time constant
- (C) much smaller than the system time constant
- (D) much larger than the derivative time constant

81. A PID controller has a proportional band of 50%, the proportional gain is

$$(A) K_{\scriptscriptstyle D} = 50$$

(B)
$$K_p = PB/5$$

(C)
$$K_p = 50 PB$$

$$K_p = 100/PH$$

82. Which of these descriptions is true of the step response of an over damped system?

- it rises to a steady state value with no overshoot
- (B) it rises to a steady state value with little overshoot
- (C) it rises to a steady state value with large overshoot
- (D) it does not settle to a steady state value

83. The short hand formula for calculating the closed loop transfer function for simple system is

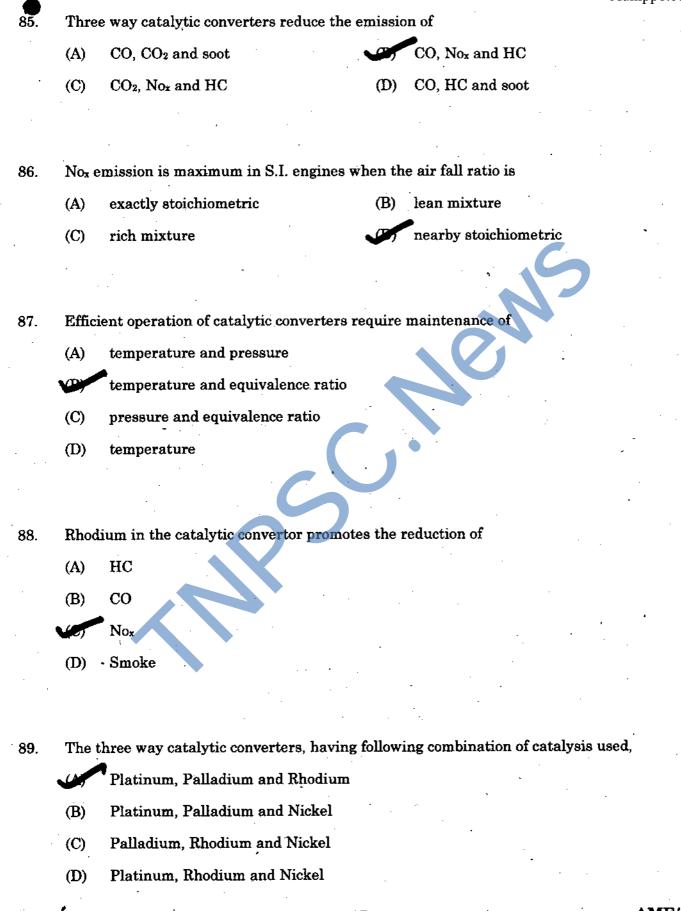
(D)
$$loop / (1 + open loop)$$

84. The percentage overshoot of a second order system to a step input depends only on

- (A) the value of the step input
- the value of the damping ratio

(C) the value of the gain

(D) natural frequency



90.	A Ga main		om is d	langerous because the exhaust gas contains
	(A)	Blue smoke	(B)	Water vapour
		Carbon monoxide	(D)	Air
91.	Knoc	king takes place in C.I. Engines		
	9	at the start of combustion	(B)	at the end of combustion
•	(C)	during combustion	(D)	•
	, ,			
92.		ourpose of preventive maintenance is	to	
	(A)	help schedule breakdowns		
~	(B)	eliminate routine service work		
	(C)	force the driver to use his own serv	ice stati	ion
		help prevent failure		• • •
93.	Servi	ce specifications are set by the		
	W.	Vehicle manufacturer		
	(B)	Technician		
¥	(C)	Service manager	-	
	(D)	Society of Automotive Engineers		
94.	Most custo	-	oaming	around the shop work areas because the
	(A)	often want to help		
	(B)	may steal the data and shared it to	the com	npetitor
	4	could be in danger without reality i	t	-
	(D)	may find out they are paying for wa	arranty v	work
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95 .	_	ver window motor operates in online windows in the complaint?	one direction	but not the other	er direction. Wh	ich is the
	(A)	worn brushes			÷	
	(B)	defective permanent magnets	•			
	(C)	loss of residual magnetism in t	he armature			
	0	defective power window switch				
	•	• •				
96.	The m	nain purpose of the field coils in	a DC motor:	is to	· .	
<i>9</i> 0.	(A)	create a stationary magnetic fi		•		· .
	(A)	create a magnetic field in the a			5	
	(C)	create a CEMF				•
	(C)	reverse the polarity in the arm	ature windir	og just as commu	tation occurs.	
	(D)	reverse the polarity in the arm	avaic wina.			
	'	,				
97.		stator windings in an alternate ured between each of the three				
	VIII.	The stator windings do not have	ve an open ci	rcuit		
	(B)	The stator windings are shorte	ed to the stat	or frame		
	(C)	The stator windings are open			•	
	(D)	The stator windings are magn	etized		•	
					,	
98.	A wa	veform repeats itself 60 times p			ncy of the wavel	orm?
	(A)	120 hertz	(B)	1 hertz	·	
	C	60 hertz	(D)	3600 hertz		
		rie ii. ii. kuidaa in on oltomo	ton in used to			
99.	•	tifier diode bridge in an alterna	wr is used w			
•	(A)	Convert DC into AC				
	(B)	Regulate voltage output				
	(C)	Bridge the gap between the st				.•
	D	Convert or rectify the negative	e half of a sin	e wave into the	positive half of a	sine wave
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.5		•	19			TATITAL I

100. If the ratio of the length of connecting rod to the crank radius increases

- (A) primary unbalanced forces increase
- (B) primary unbalanced forces decrease
- (C) secondary unbalanced forces increase

secondary unbalanced forces decrease

101. The radius of gyration 'k' for a solid cylinder of radius 'R' is equal to

(A) $\sqrt{2} R$

 $R/\sqrt{2}$

(C) 0.6324 R

(D) 0.5 R

102. A ball is thrown up. The sum of kinetic and potential energies will be maximum at

(A) the ground

(B) the highest point

(C) the centre

all the points

103. The potential energy an elevator losses in coming down from the top of a building to stop at the ground floor is

- (A) lost to the driving motors
- (B) converted into heat
- (C) lost in friction of the moving surfaces

used up in lifting the counter poise weight

104. The motion transmitted between the teeth of two spur gears in mesh is generally

(A) Sliding

Rolling

(C) Rotary

(D) Partly sliding and partly rolling

105. If a constant force 'F' acts on a body of mass 'm' for time 't' and changes its velocity from u to v under an acceleration of 'a' all in the same direction, then for equilibrium of the body

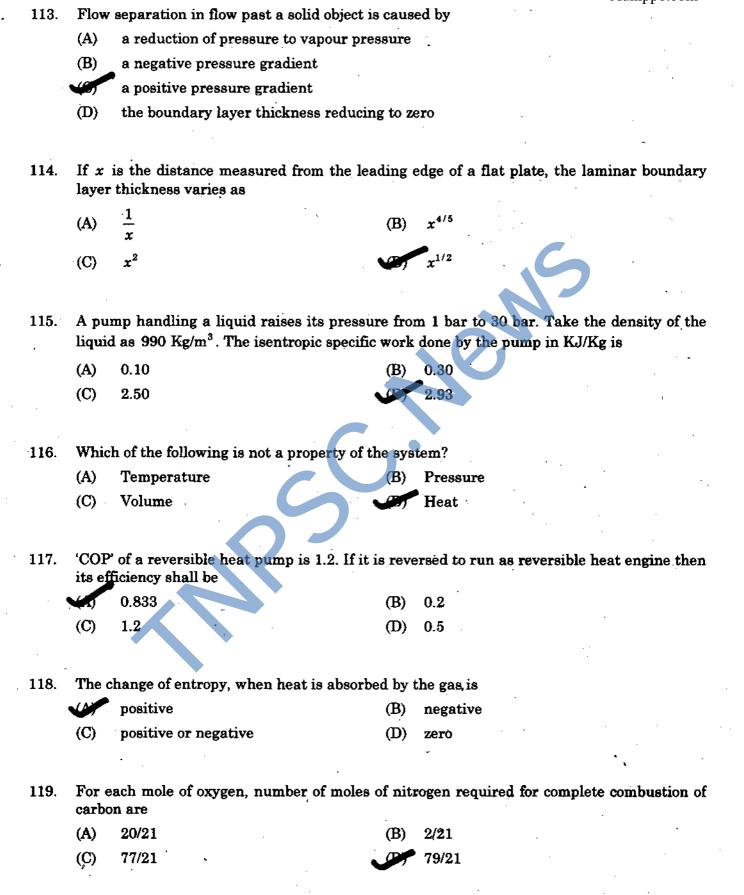
(A) $F = \frac{mu}{t}$

(B) $F = \frac{mv}{t}$

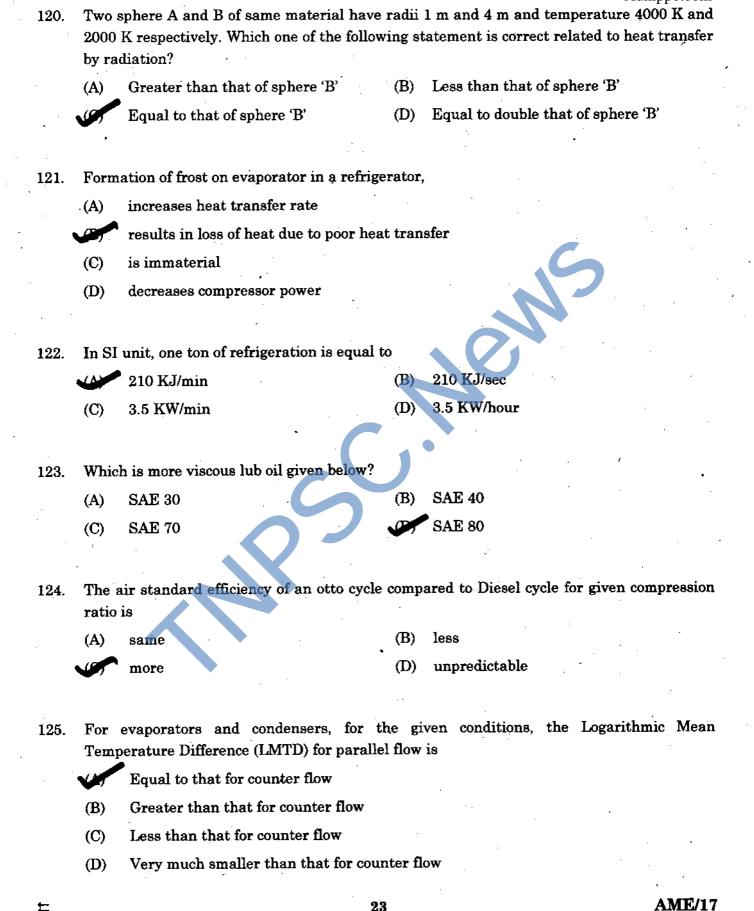
 $F = m \left(\frac{v - u}{t} \right)$

(D) $F = m \left(\frac{v+u}{t} \right)$

106.	Due to addition of extra full length leaves the deflection of a semi-elliptic spring								
	(A)	increases		decreases					
	(C)	does not change	(D)	is doubled					
107.	Strai	in rosettes are generally used for							
,	(A)	measurement of load	(B)	measurement of shear strain					
	JOY -	measurement of longitudinal strain	(D)	measurement of resilience					
108.	Rive	ts are generally specified by							
	(A)	shape	(B)	diameter of head					
	(C)	overall length	- O	shank diameter					
				101					
109.	A pro	opped cantilever is indeterminate exte	rnally	to					
	مین	The second degree	(B)	The third degree					
	(C)	The fourth degree	(D)	The fifth degree					
110.	Desig	gn of power transmission shafting is b	ased or	n					
	4	Maximum shear stress theory of fail	ure						
	(B)	St. Venant theory							
	(C)	Rankine's theory							
	(D)	Heigh's theory							
111.	If the	e radius of wire stretched by a load is	double	d then its Young's modulus					
•	(A)	will be doubled	(B)	will be halved					
	(C)	becomes four times	9	remains unaffected					
	•	1. 6% 9 1 1. 4. CT 2							
112.	Une	kgf/cm ² when converted to SI units is	(T D)	0.00 MD-					
		0.0981 MPa	(B)	0.98 MPa					
	(C)	10 ⁴ Pa	(D)	1 Pa					



AMF/17 22



126.	Which one of the following materials, deformation of crystals was not by twinning?									
	(A)	Zinc				(B) Tin				
	(C)	Iron	•			Aluminium .				
127.	Balla	s for bal	l bearii	ngs are:	made of	f .				
	(A)	High	carbon			(B) Mild steel				
•	(C)	Stain	less ste	el		Carbon-chrome steel				
128.		•	•	ing is a	copper	free alloy?				
	(A)	Brass				(B) Phosphor bronze				
		Invar				(D) Muntz metal				
129.	Iron-				ıg 1.7 to	4.3% carbon is called				
	(A)	(A) Eutectoid cast Iron				(B) Hyper eutectic cast Iron				
•	V6)	Hypo-	eutecti	c cast I	ron	(D) Eutectoid steel				
	•									
130.	Match the List I alloys with List II applications and select the correct answer using the codes given below									
	codes	s given	below							
		List I				List II				
	(a)	Chrom	el		1.	Journal bearing				
	(b)	Babbit	alloy		2.	Milling cutter				
	(c)	Nimon	ic alloy		3.	Thermo couple wire				
-	(d)	High s	peed st	eels	4.	Gas turbine blade				
		(a)	(b)	(c)	(d)					
•		3	1	· 4	2					
	(B)	3	4	. 1	2					
		2	4		3					
	(C)	4	r	1						
	(D)	2	1	. 4	3					

131.	Hard	Hard-zone cracking in low alloy steel due to welding is the result of an absorption of								
	(A)	N_2	(B)	O_2						
	V)	$^{'}$ $\mathrm{H_{2}}$	(D)	C						
*										
132.	Cutti	ng power consumption in	turning can be sig	nificantly reduced by						
	4	increasing rake angle of	the tool	·						
	(B)	increasing the cutting ar	ngle of the tool							
	(C)	widening the nose radius	s of the tool							
	(D)	increasing the clearance	angle		7					
•									
133.	A grii	nding wheel of 150 mm di	ameter is rotating	at 3000 rpm. The grind	ing speed is					
	4	$7.5\pi\mathrm{m/s}$	(B)	$15\pi\mathrm{m/s}$	•					
	(C)	$45\pi\mathrm{m/s}$	(D)	. 450π m/s						
			(-)							
134.	In ult	rasonic machining proces			r for materials with					
	(A)	higher toughness	. (B)	higher ductility						
	(0)	lower toughness	(D)	higher fracture strain						
					•					
135.	In Ele	ectro-Discharge machinin	g, the work piece i	s connected to						
	(A)	Cathode		Anode						
	(C)	Earth	(D)	Electrolyte						
136.	Feed	drives in CNC milling ma	chines are provide	ed by						
	(A)	synchronous motors	(B)	induction motors						
	(C)	stepper motors		servo-motors						
					· .					
137.	The r	ake angle in a drill								
	(A)	increases from centre to	periphery		• .					
	(B)	decreases from centre to								
	(C)	remains constant	£,£J							
		is irrelevant to the drilli	ng operation							
	\		O - L	* •						

	(A)	Flat	;			0	Spherical		•
	(C)	Con	ical			(D)	Grooved		
139.	The		s which	are onl	y used	for checking t	he size and c	ondition of	other gauges are
	(Á)	Plug	gauge				Master gau	ge	•
	(C)	Lim	it gauge	٠.	,	(D)	Inspection g	auge	
140.	Stat	istical	quality o	ontrol w	vas dev	eloped by		.6	
	(A)	Fred	lerick Ta	ylor		(2)	Walter Shev	vhart	
	(C)	Geor	rge Dant	zing		(D)	W.E. Demin	g	
141.	Match the List I with List II and select the correct answer given below:								
		List I				List II		•	
	(a)	Talys	urf		1.	T slots		. /	- *
	(b)	Telescopic gauge			2.	Flatness			
	(c)	Trans	Transfer calipers			Internal dia			
	(d)		ollimete		4.	Roughness			
	• /								
	/A\	(a)	(p)	(c)	(d)			•	
	(A)	, ¹	2	3	4				,
	T)	4	3	1	2				•
	(C)	4	3	2	1				
	(D)	3	4	1	2	•			
142.	Whie	ch of th	e followi	ng error	rs are n	ot controllable?	,	•	

For general use the measuring tip of a comparator should be

AME/17

(A)

(C)

Caliberation errors

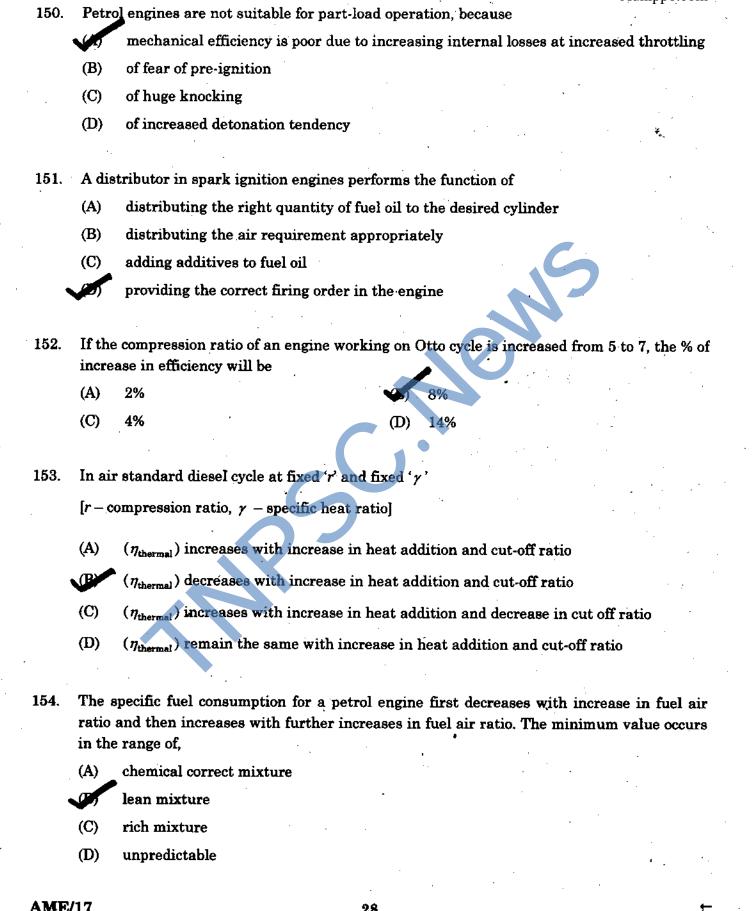
Avoidable errors

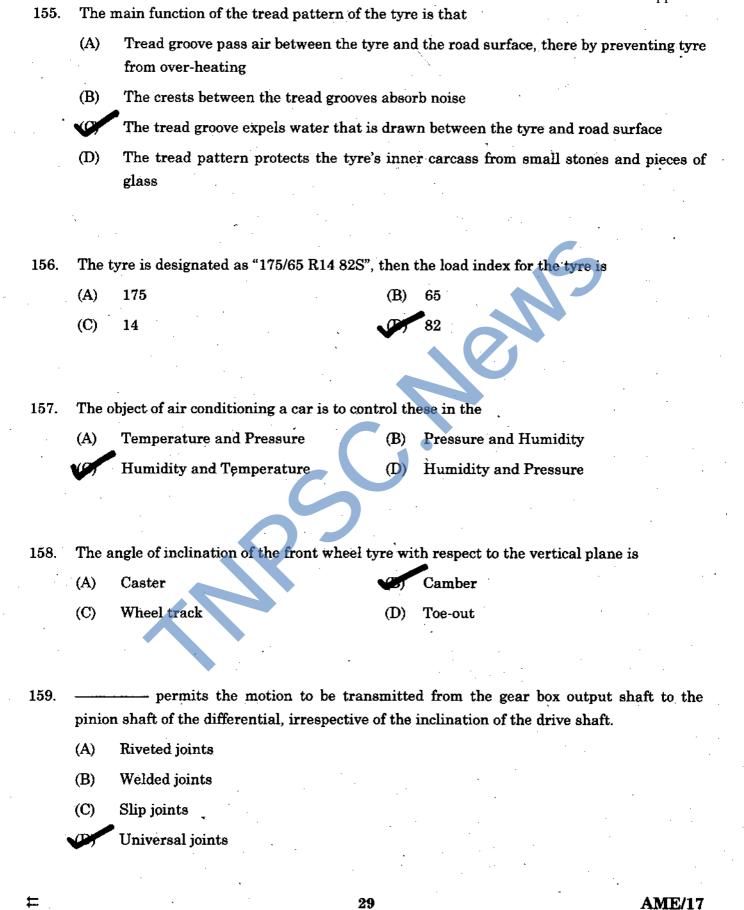
138.

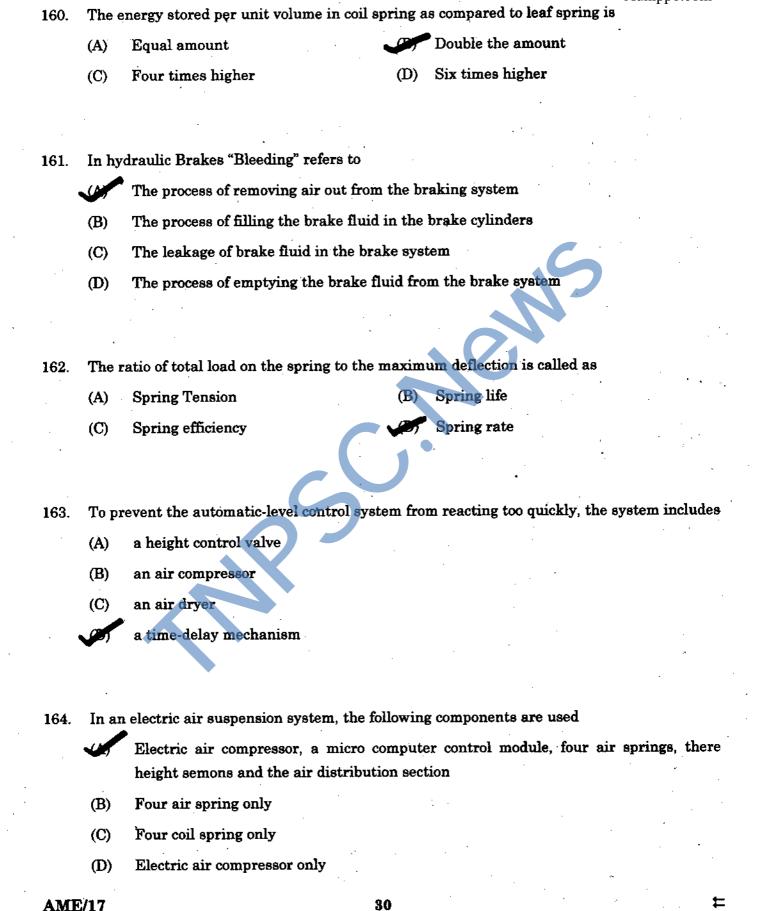
Environmental errors

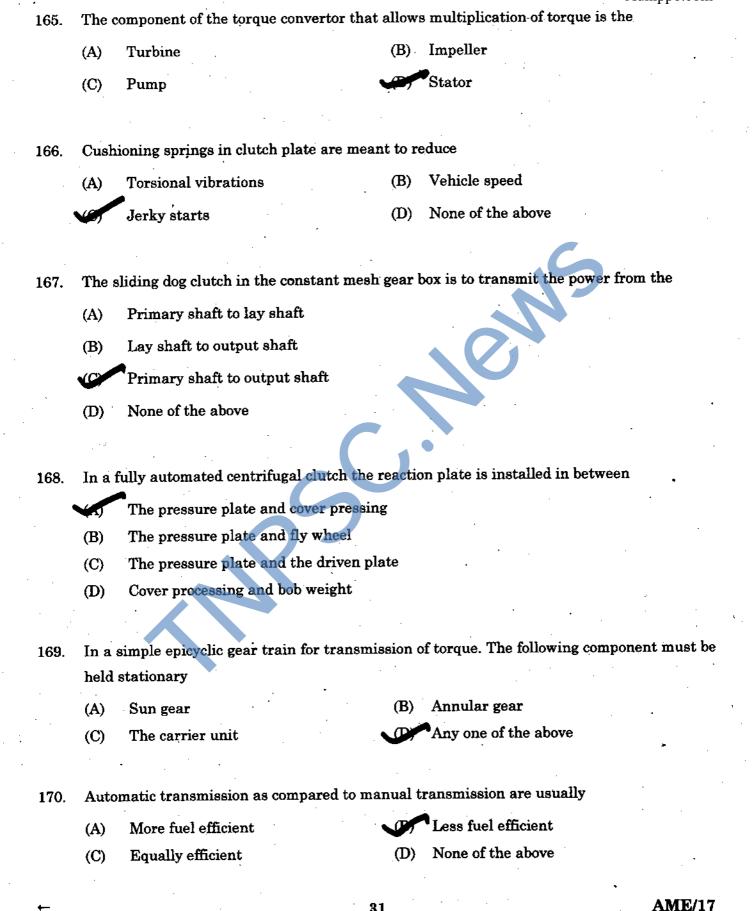
Random errors

143.		technique for displaying applications where complex 3-D geometric are required for the sterior shell of a product is called								
	(A)	2-D modelling		(B)	Solid modelling					
	(C)	3-D modelling		0	Surface modelling					
144.	The	resolution of electrostati	ic plotter is ex	cpressed	in terms of					
	(A)	number of lines per u	nit area							
	(0)	number of dots per inc	ch							
	(C)	ratio of darkened area	ı to gross area	1						
	(D)	number of lines per in	ich '							
					46					
145.		difference between CAI e CAM software is	and CAM is	s that C	AD software is directed at product design					
• .	CAMP	concerned with produc	ction and cont	trol of to	ol design					
	(B)	concerned with management programs								
	(C)	specifically for PC boa	ırd design							
	(D)	designed for communi	cations							
146.	A Ro	A Robot is basically a								
, 10 .	(A)	machining device		(B)	inspection device					
	(11)	material handler		(D)						
	,	Middellar Manager		() (
147.		c tool required for work	study is	(T)						
	(A)	Graph sheet	:	(B)	Process chart					
	(C)	Planning chart			Stop watch					
148.		individual human varia n care of by	ability in time	e studies	s to determine the production standards is					
	THE PARTY OF THE P	personal allowances		(B)	work allowances					
	(C)	error allowances		/-(D)	machine allowances					
149.	Buffe	er stock + Reserve stock	+ Safety stoo	k equals	s ·					
	(A)	Order quantity	•	(B)	EOQ					
		Reorder point		(D)	Maximum inventory level					
		·		. ,						





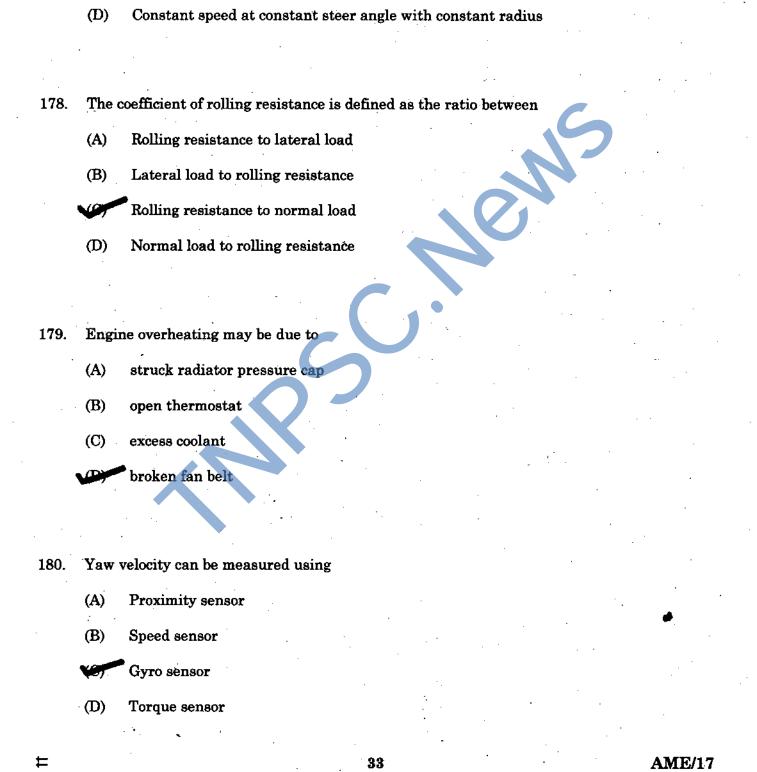




	(A)	Panels	(B)	Mechanisms	
	(0)	Trims	(D)	Firewall	•
172.	Whic	h of the following device is use	d to measure t	he airflow velocity in wine	d tunnel testing?
	4	Anemometer	(B)	Altimeter	
	(C)	Barometer	(D)	Steam generator	
•		$\frac{1}{2} \left(\frac{1}{2} + \frac{1}{2} \right) = \frac{1}{2} \left(\frac{1}{2} + \frac{1}{2} + \frac{1}{2} \right) = \frac{1}{2} \left(\frac{1}{2} + \frac{1}{$			
173.	The r	nost commonly used suppleme	ntary restrain	t system is	
	(A)	Seat belt	(B)	Disc brakes	
	(0)	Air bags	(D)	Telescopic steering colun	ın
		•			
174.	Bum	per and other collision absorbi	ng materials is	made up of	
	(A)	Light alloys of Brass	(B)	Light alloys of Copper	
,	مری	Light alloys of Aluminium	(D)	Wood blocks	
				•	
175.	Choo	se one feature that improves th	ie forward visi	bility of a vehicle.	•
	(A)	Brake light	(B)	Hazard lights	
	(C)	Turn indicators		Cornering head light	
			•		
176.	Whic	h type of bus is more suited for	the following	features?	
	Engir	ne in front of passenger compa	rtment	·	•
	•-	ratio of useful length to overall			
	•		,		
	Poor :	aerodynamic shape and high ta	are weight		
	W	Classic type bus			•
	(B)	Doubleducker bus			
	(C)	Split level bus			
	(D)	Articulated bus		•	

The interior of a vehicle is given an aesthetic look by adding

171.



,177.

(A).

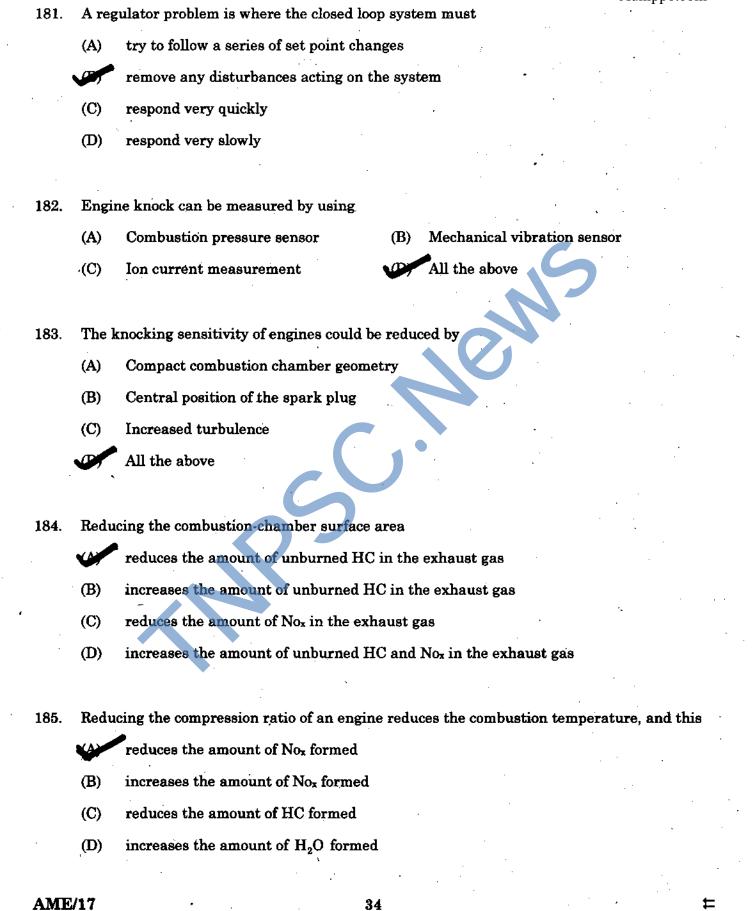
(B)

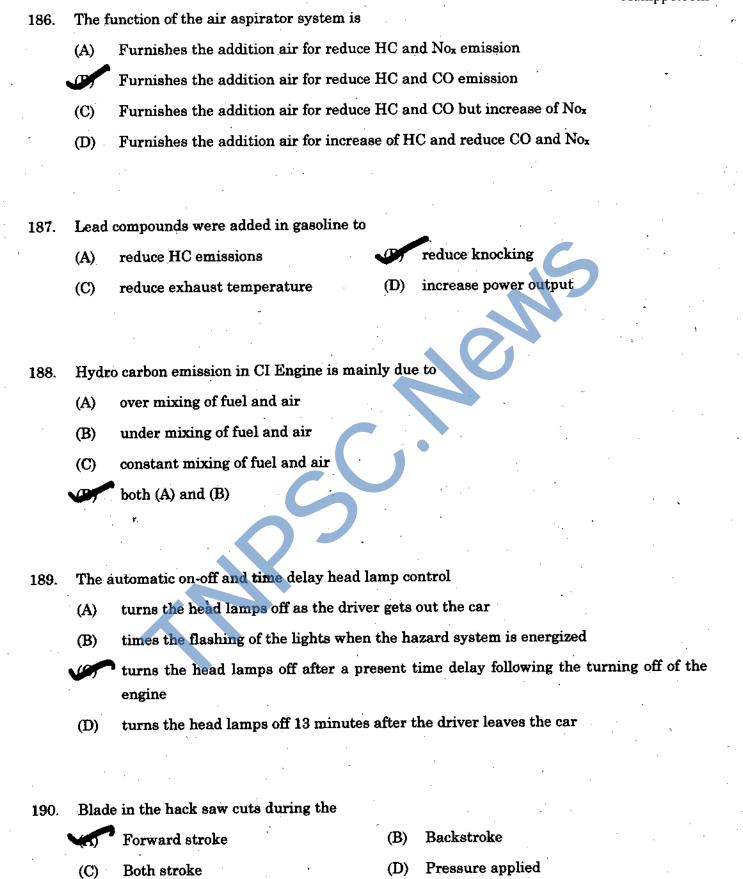
In constant speed test, the vehicle is driven with

Constant speed at various steer angle

Constant speed at constant steer angle

Constant speed at various turing radii





191.	No _x e	emission in SI engines will be lowest o	luring	· · · · · .	
	(A)	Acceleration	(B)	Deceleration	,
	(C)	Cruising	(D)	Idling	
100	Т	controlling devices in the sutametic		inia	li
192.		controlling devices in the automatic onds and	transm	nssion operated by nyuradi	nc pressure are
			ΔD),		
	(A)	pistons	(B)	gears	
	(C)	planetary gear sets		clutches	
			-	N	
19 3.	The a	alternator produces electricity in its	-	. 0	
	(A)	rotor field coil	(2)	stator windings	
	(C)	regulator	(D)	armature commutator	
			1		
194.	The e	electronic spark control used on some	turbo c	harged engines	
	4	refer as the spark if detonation begi	ns		
	(B)	takes the place of mechanical advan	ce mecl	nanisms	• •
	(C)	advances the spark to suit operating	g condit	ions	
	(D)	reduce spark voltage if detonation b	egins		•
					· .
				•	N
195.	In th	e starting motor, magnetism			
	(A)	rotate the armature and demeshes t	he pini	on	•
	(P)	rotate the armature and meshes the	pinion		
	(C)	prevents high armature speed as the	e engine	e starts	
	(D)	sends cracking force in one direction	only		

