Question Bank 2012

I. C. Engine

Objective:

01.01 Thermal efficiency of I.C. Engine is……than E.C. Engine (greater, less)

01.02 Weight to power ratio is less in …… (E.C. Engine, I.C. Engine)

01.03 I.C. Engine is…….acting. (Single, Double)

01.04 4-stroke Diesel engine is an…….. (I.C. Engine, E.C. Engine)

01.05 I.C. Engine was made in the year……A.D. (1860, 1876, 1892)

01.06 Dr. Rudolf Diesel made the first Diesel engine in the year……AD. (1860, 1876, 1872)

Objective:

02.01 Petrol engine is an example of ……..engine (Spark ignition, compression ignition)

02.02 Deutz engine Model BF12L 513C fitted on Plasser BCM is…… Cooled. (Air Water)

02.03 Cummins Engines fitted on Track Machines are……cooled. (Air, Water)

02.04 KTA 1150-L engine is a …….cylinder engine. (6, 12)

02.05 Kirloskar HA-694 engine fitted on PQRS is a ……. Cylinder engine. (6, 12)

02.06 Deutz Engine Model BF 12L 513C is a ……. Cylinder engine. (6, 12)

02.07 Stroke Length of Deutz engine Model BF 12L 513C is……..Cm. (12, 5, 51, 13)

02.08 Total displacement volume in Cummins Engine Model NTA-855L is……..

($855mm^3$, $855cm^3$, $855inch^3$, $855ft^3$.)

02.09 In Cummins engine Model KTA 1150-L, the term used for application code is……

(K, T, A, L)

Question	Answer	Question	Answer
01.01	Greater	02.01	Spark ignition
01.02	I. C. Engine	02.02	Air
01.03	Single	02.03	Water
01.04	I.C. Engine	02.04	6
01.05	1860	02.05	6
01.06	1872	02.06	12
		02.07	13
		02.08	$855cm^3$
		02.09	‘L’

Objective:

03.01 Oil sump is made of……..(Cast Iron, Aluminium, Forged steel, Copper)

03.02 In 4-stroke engines minimum……...Compression rings are used. (0, 1, 2, 3)

03.03 In 4-stroke engines minimum……...oil control rings are used. (0, 1, 2, 3)

03.04 Piston and connecting rods are connected by (Circlip, Rings, Gudgeon pin, bush)

Objective:

04.01 Piston pin and crankpin of crankshafts are joined by……..(Gudgeon pin, Connecting Rod, piston, Rings)

04.02 Small end of connecting rod connects with…….. (Piston, Gudgeon pin, Crank pin Camshaft)

04.03 Center to centre distance between the crankpin and main journal is …….of the piston strike. (Same, half, twice, quarter)

04.04 No. of teeth on camshaft gear is…….that of the nos. of teeth on crankshaft gear. (Half, Same, twice, thrice)

04.05 Speed of camshaft is……to that of crank shaft. (Half, Same, twice, thrice)

04.06 In Cummins engine…….cams are on camshaft for each cylinder (1, 2, 3, 0)

Objective:

05.01 Normally inlet valves are made of……(Nickel chromium alloy steel, Silicon Chromium alloy steel.)

05.02 Normally exhaust valves are made of……..(Nickel Chromium alloy steel, Silicon Chromium alloy, Steel)

05.03 Normally valve face angle is…….

05.04

05.05

05.06

05.07

05.08

05.09

05.10 (0^0, 15^0, 45^0, 90^0)

05.11 Push rod is fitted in between…….and….(Cam, Tappet, Adjusting screw, Valve)

Objective:

06.01 Ratio of No. of teeth on crankshaft gear to the P.T. pump gear is (1:1, 1:2, 1: ½, ½,:1)

Question	Answer	Question	Answer
03.01	Aluminium	05.01	Nickel chromium alloy steel
03.02	2	05.02	Silicon chromium
03.03	1	05.03	45^0
03.04	Gudgeon pin	05.04	Tappet
04.01	Connecting Rod	05.01	1:1
04.02	Gudgeon pin		
04.03	Half		
04.04	Twice		
04.05	Half		
04.06	3		

Objective:

07.01 The upper most extreme point beyond which piston cannot go in upward direction is called……..(TDC, BDC, Clearance, Stroke)

07.02 07.02 The bottom most extreme point beyond which piston cannot go in downward direction is called ……(TDC, BDC, Clearance, Stroke)

07.03 The complete movement of piston from TDC to BDC or vice versa is called…….. (Stroke, Stroke length, clearance, swept)

07.04 The volume of cylinder above TDC is called…… (Clearance volume, Swept Volume, Stroke, Bore)

07.05 The volume of cylinder between TDC and BDC is called……..(Clearance volume, Swept Volume, Stroke, Bore)

07.06 Diameter of engine cylinder is known as…….(Bore, Clearance volume, Swept volume, Stroke Length.

Objective:

08.01 Inlet valve opens on……...Stroke (Suction, Compression, Power, Exhaust)

08.02 Diesel is injected at the end of ……Stroke(Suction, Compression Power, Exhaust)

08.03 In four stroke Diesel engine at the end of compression stroke the pressure raises up to……bar. (28, 180, 200, 300)

08.04 In 4-stroke Diesel engine at the end of compression stroke the temperature rises upto…….(2500^{0}C, 200^{0}C, 250^{0}C, 550^{0}C)

08.05 Self ignition temp. of diesel is approximately……^{0}C (550^{0}C, 440^{0}C, 2500^{0}C, 200^{0}C)

08.06 Both the valves remains closed in stroke…… (Suction, Compression, Power, Exhaust)

Objective:

09.01 4-stroke Petrol engine works on……..cycle (Otto, Diesel, Carnot, Dual)

09.02 Piston moves from BDC to TDC in……stroke (Suction, Compression, Power)

09.03 In 4-stroke petrol engines at the end of compression stroke pressure rises upto….bar (28, 8-13, 200-300, 14-20)

09.04 Spark is given by the spark plug at the end of ……..Stroke (Suction, Compression, Power, exhaust).

Objective:

10.01 Spark plug is an essential component of ……..… engine (Petrol, Diesel)

10.02 Injector plug is an essential component of ……..… engine (Petrol, Diesel)

Question	Answer	Question	Answer	Question	Answer
07.01	TDC	08.01	Suction	09.01	Otto
07.02	BDC	08.02	Suction	09.02	Suction
07.03	Stroke	08.03	28	09.03	8-13
07.04	Clearance Value	08.04	550^{0}C	09.04	Compression
07.05	Swept Value	08.05	440^{0}C	09.05	Petrol Tank
07.06	Bore	08.06	Compression	09.06	1
		08.07	2	10.01	Petrol
		08.08	1	10.02	Diesel
				10.03	Petrol

Objective:

11.01 Specific gravity of high speed diesel is in the range of ……..…. to
(0.82-0.92, 1.80-3.00, 4.5-5.00, 1.24-1.26)

11.02 Minimum cetane No. of H.S.D. is ……..… (30, 35, 45, 60)

11.03 As on impurity …….sulphur is available in high speed diesel (1%, 0.5%, 2%, 3%)

11.04 Incomplete combustion results in production of …… (Co, CO_2, C, H_2O)

11.05 ….parts of corbon mono-oxide in 10,000 parts of air is dangerous to breathe (1, 5, 15, 2)

11.06 The time elapsed between the start of fuel injection and first appearance of flame is called…….…. (Ignition delay, Uncontrolled combustion, Before burning, After Burning)

11.07 Rapid and uncontrolled combustion starts at the end of …….
(Ignition delay, Controlled combustion, After burning, Combustion)

11.08 Maximum pressure in the combustion chamber is reached in the stage of …….. (Ignition delay, Rapid & uncontrolled combustion, Controlled combustion, After burning)

11.09 Maximum temperature in the combustion chamber is reached in the stage of……. (Ignition Delay, Rapid & uncontrolled combustion. Controlled combustion, After burning)

Objective:

12.01 In suction stroke……..valve is open (Inlet, Exhaust, Injector, None)

12.02 Both the valves remains closed in…stroke.(Suction, Compression, Exhaust, None)

12.03 Diesel is injected inside the engine cylinders at the end of…..Stroke
(Suction, Compression, Exhaust, None)

12.04 Inlet valve opens……..before TDC (0^0-5, 5^0-10^0, 30^0-40^0, 35^0-50^0)

12.05 Inlet valve gets closed……..after BDC (5^0-10^0, 35^0-50^0, 0^0-5^0, 35^0-50^0 None)

12.06 In actual working cycle of 4-stroke diesel engine Diesel injected just….reaching the piston at TDC.
(Before, After, On, None)

12.07 In actual working cycle of 4-stroke diesel engine compression and expansion takes place according to…….process (Adiabatic, Polytrophic, Isothermic, Isobaric)

12.08 In 4-stroke petrol engine……is sucked during suction stroke
(Air. Air petrol mixture, petrol, diesel petrol mixture)

Question	Answer	Question	Answer
11.01	0.82-0.92	12.01	Inlet
11.02	45	12.02	Suction
11.03	1%	12.03	Compression
11.04	C^O	12.04	5^0-10^0
11.05	15	12.05	35^0-50^0
11.06	Ignition Delay	12.06	Before
11.07	Ignition Delay	12.07	Polytropic
11.08	Ignition Delay	12.08	Petrol mixture
11.09	Controlled Combustion	12.09	

Objective:

13.01 In actual working cycle suction takes place at……atmospheric pressure
(Less than, Equal to, More than, None)

13.02 In actual working cycle inlet valve gets closed in …… stroke
(Suction, Compression, Power, Exhaust)

13.03 In actual working cycle injection of fuel starts……before TDC in power stroke.
(14^0-18^0, 35^0-50^0, 5^0-10^0)
13.04 In actual working cycle exhaust valve opens……..before TDC in power stroke.
(14^0-18^0, 35^0-50^0, 5^0-10^0)
13.05 In actual working cycle exhaust valve gets closed…….after TDC in suction stoke
(14^0-18^0, 35^0-50^0, 5^0-10^0)

Objective:

14.01 In cummins engines cylinders are counted from…..side. (Vibration damper, Flywheel)
14.02 Viewing from flywheel side, diesel engines rotate…… (Clockwise, Anticlockwise)
14.03 In Deutz Engine Model BF 12L 513C cylinders are counted from……side.
(Vibration damper, Flywheel).
14.04 A Bank and B-bank are designated in…….engine (MWM, Cummins, Deutz, Kirloskar)
14.05 In MWM (Greaves) engine inlet valve opens…..TDC (1^0 after, 10^0 after, 1^0 after, 1^0 before)
14.06 In MWM (Greaves) engine fuel injection starts…….TDC.
(10^0after, 10^0after, 1^0after,1^0 before)
14.07 Valve overlap in MWM (Greaves) Engine is…..…. (1^0, 2^0, 10^0, 35^0)

Objective:

15.01 Power flow gap in 4-cylinder engine is……..….(120^0, 180^0, 90^0, 360^0)
15.02 In a 4 cylinder engine 1 No. cylinder is at the end of power stroke, 3 No. cylinder will be at the end of……..…….. (Suction, Compression, Power, Exhaust)
15.03 In a 4 cylinder engine 3 No. cylinder is in mid-suction stroke, 2 No. cylinder will be in the mid ……..…….Stroke. (Suction, Compression, Power, Exhaust)
15.04 Power flow gap in 6 cylinder engine is……, (120^0,180^0, 90^0,360^0)
15.05 In Power stroke over cap in a 6 cylinder engine is…… (60^0,120^0, 180^0,90^0)
15.06 In a 6 cylinder engine 1 No. cylinder is at 1200 power stroke, 5 Nos. cylinder will be at ……..compression stroke. (60^0,120^0, 180^0,90^0)

Objective:

16.01 Sufficient quantity of fresh air at NTP for complete combustion of 1 liter HSD is…… (12500 ltr. To 14500, 1250 to 1450 ltr., 200 ltr to 300 ltr.)
16.02 On Cummins engine……type air cleaner is used (Oil bath, Dry paper, both)
16.03 On Kirloskar HA 694 engine…… type air cleaner is used (Oil bath, Dry paper type, Both)
16.04 On Deutz engine model BF 12L 513C..... type of air cleaner is used (Oil bath, Dry paper, Both)
16.05 On MWM TBD 232/234 engine…… type of air cleaner is used (Oil bath, Dry paper, Both)

Question	Answer	Question	Answer	Question	Answer
13.01	Less than	14.03	Flywheel	15.01	180^0 before
13.02	Comparison	14.04	MWM	15.02	Compression
13.03	14^0-18^0	14.06	Inlet	15.03	Power
13.04	35^0-50^0	14.07	Suction	15.04	120^0
13.05	5^0-10^0	14.05	1^0after	15.05	600^0
14.01	Vibration Damper	14.06	1^0 before	15.04	180^0
14.02	Anticlockwise	14.07	2^0		

Objective:

18.01 Supercharging is process of supplying air inside the engine cylinder at…….. than atmospheric pressure (Less, More)
18.02 Turbocharger is a supercharging device which runs by (Exhaust gases, Engine Gear-trains)
18.03 Supercharger is a super charging device which runs by(Exhaust gases, Engine Gear-trains) 18.04 Turbocharger runs at rpm …… (1000, 10000, 125000, None)
18.05 Turbocharged engine should be run at idle for……minutes before stopping (1, 2, 3-5, 0)
18.06 After cooler is a device used to cool ……. (Air, Oil, Fuel, Water)
18.07 After cooler is fitted…….. Turbocharger (before, After)

Objective:

19.01 Silencer is an……system component (Air supply, Fuel supply Lubricating, Cooling)
19.02 Turbocharger is fitted ……after cooler. (Before, After)
19.03 Air cleaner is fitted…….….Turbocharger (Before, After)
19.04 Impeller of Turbocharger is at……side (Fresh air, exhaust)
19.05 Turbo wheel of Turbocharger is at……..side (Fresh air, Exhaust)
19.06 Oil coming out from Turbocharger goes to……..(Sump, Oil gallery, Oil cooler, filter)

Question	Answer	Question	Answer	Question	Answer
18.01	More	18.05	3-5	19.02	Before
18.02	Exhaust gases	18.06	Air	19.03	Before
18.03	Engine Gear-trains	18.07	After	19.04	Fresh air
18.04	125000	19.01	Cooling	19.05	Exhaust
				19.06	Sump

Objective:

20.01 Liquid fuel is injected with compressed air in ……(Air injection system, Solid injection system)
20.02 Only liquid fuel is injected and and there is no need of compressed air in (Air injection system, Solid injection system)
20.03 Mico-Bosch fuel supply system is a……..… (Air injection system, Solid injection system)
20.04 Cummins P.T. fuel supply system is a …..…(Air injection system, Solid injection system)
20.05 In Mico-Bosch fuel supply system, fuel first passes through……(Cloth filter, paper filter)
20.06 In Mico-Bosch fuel supply system, fuel is drain from the diesel tank by ……(Fuel Feed pump, Fuel injection pump)
20.07 In Mico-Bosch fuel supply system, Bleeding sources are provided on…….(Feed pump, Injector, Filter body)
20.08 Fuel injection pressure is…… (28bar, 180bar, 1 bar)
20.09 In Mico-Bosch fuel supply system leakage line starts from……..(Feed pump, Fuel injection pump, pump, Injector)
20.10 In Mico-Bosch fuel supply system relief valve and return line is provided on……..(Feed pump, Fuel injection pump, Injector)
20.11 Bleeding Screw is provided to remove…….(Air lock, Lube Oil,Water)
20.12 Hand priming pump is used in ……(Mco-bosch fuel supply system Cummins PT Fuel Supply System)

20.13 Hand [riming pump is used to force fuel when engine is in (Start, Stop)

Question	Answer	Question	Answer	Question	Answer
20.01	Air injector	20.06	Fuel Feed Pump	20.11	Air Lock
20.02	Injection System	20.07	Filter Body	20.12	Mico-Bosch fuel supply system
20.03	Solid Injection System	20.08	189 Bar	20.13	Start Up.
20.04	Injection System	20.09	Injector		
20.05	Cloth Filter	20.10	Fuel Injector Pump		

Objective:

21.01 Fuel feed pump is a ……(Plunger Pump, Rotary Pump.
21.02 Fuel feed pump is a drive by……(Eccentric, Com).
21.03 Primary filter is made of……(Cloth, Paper)
21.04 Secondary filter is made of……(Cloth, Paper)
21.05 Pre filter is made of ……..(Cloth, Paper , Bronze, Mesh)
21.06 Fuel injection pump is a……..(Plunger Pump, Rotary pump)
21.07 6 Cylinder FIP consists of……Nos. of plunger pumps (3, 6, 12)
21.08 Plunger pump in FIP is driven by……(Cam, Eccentric)
21.09 Metering of fuel is done in……..(FIP, Feed pump, Injector)
20.10 Injection timing is maintained by…….(Camshaft, Delivery valve, Injector, Feed pump)
21.11 In Mico-Bosch Fuel supply system Injector function is to…….. (Pressurize fuel, Atomize & Vaporize)
20.12 Injection pressure is set in…….(Injector, Feed pump, FIP)

Question	Answer	Question	Answer	Question	Answer
21.01	Plunger pump	21.06	Plunger	21.11	Vaporize
21.02	Eccentric	21.07	3, 6, 12	21.12	Injector
21.03	Cloth	21.08	Cam		
21.04	Paper	21.09	FIP		
21.05	Bronj	21.10	Camshaft		

Objective:

22.01 The abbreviation P.T. Stands for…….(Pound-Time, Pressure-Time)
22.02 Ratio of P.T. pump speed to the crank shaft speed is (1, 2, ½).
22.03 P.T. pumps is a ……..(Plunger pump, Gear pump)
22.04 In Cummins PT fuel supply system diesel from the tank is drawn by……(Feed pump, PT pump)
22.05 Common rail pressure is 200-300……..(Bar, PSI, N/m^2)
22.06 The P.T. pump has…….delivery (Single, Multi)
22.07 In Cummins P.T. fuel supply system injector plunger is actuated by……..(Fuel pressure, Cam-mechanism
22.08 In Cummins P.T. fuel supply system injection pressure builds in……(P.T. pump, Injector)
22.09 In Cummins P.T. fuel supply system, injector return is……..(80%, 10%, 20%)
22.10 In Cummins P.T. fuel supply system, Bleeding screw is fitted on……..(filters, P.T. pump, Shut down valve)
22.11 In Cummins engine, fuel filter is of…….(Paper, Cloth, Felt)
22.12 In Cummins P.T. fuel supply system water separator is fitted……fuel filter (before, after)
22.13 In Cummins P.T. fuel supply system N.R.V. us fitted just after….(water separator, Fuel filter, Shutdown valve)

22.14 In PTG fuel pump 'G' stands for……..(Gear control, Governor control)
22.15 Filter screen (Mesh filter) is provided in…….……..(P.T. pump, Injector)
22.16 In Cummins P.T. fuel supply metering is done in…….…..(P.T. pump, Injector, Governor)
22.17 Cummins engines with drilled fuel passages will use ……....injector (Flanged, Cylindrical)
22.18 Cummins engines equipped with fuel manifold will use… injector (Flanged, Cylindrical)

Question	Answer	Question	Answer	Question	Answer
22.01	Pressure Time	22.07	Cam-mechanism	22.13	Shutdown Valve
22.02	1	22.08	Injector	22.14	Governor Control
22.03	Gear Pump	22.09	80%	22.15	P.T. pump
22.04	P.T. pump	22.10	Shutdown Valve	22.16	Injector
22.05	PSI	22.11	Paper	22.17	Cylindrical
22.06	Single	22.12	Before	22.18	Flanged

Objective:

23.01 Fuel feed pump is on component of ……fuel supply system (Mico-Bosch, Cummins PT)
23.02 Hand primary pump is a component ….of fuel supply system (Mico-Bosch, Cummins, PT)
23.03 N.R.V. is normally provided in ……fuel supply system (Mico-Bosch, Cummins)
23.04 Pulsation damper is provided in……(PTpump, Fuel injection pump)
23.05 Plunger pump is provided in ……..……..(PT Pump, FIP)
23.06 Gear pump is provided in…….……(PT pump, FIP)
23.07 Delivery valve is provided in……(PT pump, FIP)
23.08 Screen Mesh filter is provided in……..……(PT pump, FIP)
23.09 Metering Orifice is provided in……..(Cummins injector, Mico-bosch injector)

Question	Answer	Question	Answer	Question	Answer
23.01	Mico-Bosch	23.04	P.T. pump	23.07	FIP
23.02	Mico-Bosch	23.05	FIP	23.08	P.T. pump
23.03	Cummins	23.06	P.T. pump	23.09	Cummins injector

Objective:

24.01 Most diesel fuel have cetane No. (40 to 50, 200 to 300, 80-100)
24.02 Cetane No. of x-methyl Naphthalene is assigned ……..(40, 50, 0, 100)
24.03 Normal Heptane is assigne octane No. (0, 100, 40, 50)

Question	Answer	Question	Answer	Question	Answer
24.01	40 to 50				
24.02	0				
24.03	0				

Objective:

25.01 Sludge is mixture of lubricating substance and (Fuel, Water, Air)
25.02 Diesel Tank level should be kept……fitted (Half, Full)
25.03 In Diesel engines air lock means for stopping of ……..supply. (Fuel, Air, Oil, Water)

Question	Answer
25.01	Water
25.02	Full
25.03	Fuel

Objective:

26.01 When a film of lubricating oil is imposed between the two surfaces, the friction produced is called……(Solid friction, fluid friction, boundary friction)
26.02 The lube oil with……..viscosity variation is preferred (Minimum, Maximum)
26.03 The flash point of lube oil should be sufficiently……(High, Low)
26.04 The pour point of lube oil should be……than the lowest temperature encountered in the engine (Less, More)
26.05 Corrosion mean destruction of a solid body by. Action (Chemical, Mechanical, pneumatic)

Question	Answer
26.01	fluid friction
26.02	Minimum
26.03	High
26.04	Less
26.05	Chemical

Objective:

27.01 A dispersant/detergent is added to the lube oil to. The particles clotting (Prevent, promote)

27.02 Viscosity test of winter grade oil is done at ……(0^0F, -18^0F, 210^0F, 99^0F)

27.03 Viscosity test of summer grade oil is done at ……(0^0F, -18^0F, 210^0F, 99^0F)

27.04 SAE CF4 `15W-40 oil is meant for use upto.……(-10^0C, 0^0C -15^0C, 40^0C)

27.05 Lube oil from turbocharger goes to ……(Oil gallery, Sump, oil Cooler)

27.06 Lube oil from super bypass filter goes to ……(Oil gallery, Sump, oil Cooler)

27.07 Oil from full flow filter goes to ……(Pressure regulator, Oil Cooler, Oil Pump)

27.08 Oil to main bearings comes from…… ……(Main Oil Gallery, Connecting rod)

27.09 Piston cooling pump draws oil from(Sump, Full flow filter, Oil Pump, Super by pass filter)

Question	Answer	Question	Answer
27.01	Prevent	27.06	Sump
27.02	0^0F	27.07	oil Cooler
27.03	210^0F	27.8	Main Oil Gallery
27.04		27.09	Sump
27.05	Sump		

Objective:

28.01 Lubrication system adapted in 2-stroke petrol engine is……. (Petroil system, Splash system, Pressure System)

28.02 A scoop is made in the lowest part of the connecting rod system of lubrication…… (Petrol system, Splash system, Pressure System)

28.03 Dry system is used in engines of ……(Road Vehicles, Aeroplan, Marine)

28.04 Lube oil pump is used in……..system of lubrication (Petroil, splash, pressure, Dry sump)

28.05 Lube oil pump draws oil through the…..(Strainer, Full flow filter, Main oil gallery)

Question	Answer	Question	Answer
28.01	Petroil system	28.04	Pressure
28.02	Splash	28.05	Strainer
28.03	Aeroplan		

Objective:

29.01 Oil pump used almost universally in engines ……(Gear pump, Plunger pump, Rotor pump, Vane pump)

29.02 A…….valve is provided in many oil pumps (Relief, Unloader, D.C.)

29.03 Strainer is attached at the……..…..of oil pump (Inlet, Outlet)

29.04 Super bypass filter is used on…….engines (MWM, Cummins, Kirloskar, SUN)

29.05 In oil cooler….. is cooled (Oil, Air, Water, Fuel)

29.06 The lube oil level should be between….and… mark of Dipstick (T&B, H&L, U&L, H&B)

29.07 For checking lube oil……..is used (Dipstick, Glass Gauge, Meter)

29.08 Oil pressure gauge fitted on driving panel will be mostly of……type (electrical, Mechanical)

29.09 Oil pressure gauge fitted on driving panel will be mostly of…..type (Electrical, Mech.)

29.10 The oil pressure indicating LED glows……..when oil pressure becomes down (, OFF)

29.11 Oil pressure indicating LED gives indication of….lube oil pressure (Increased, Decreased)

29.12 Minimum oil pressure rating at idle speed is……bar (1.0, 1.5, 2.5, 3.5)

29.13 Minimum oil pressure rating at rated speed is……bar (1.9, 1.5, 2.5, 3.5)

Question	Answer	Question	Answer	Question	Answer

29.01	Gear pump	29.06	H&L	29.11	Decreased
29.02	Relief	29.07	Dipstick	29.12	1.5
29.03	Inlet	29.08	Electrical	29.13	2.5
29.04	Cummins	29.09	Mechanical		
29.05	Oil	29.10	ON		

Objective:

30.01 The escaping of burnt gases from combustion chamber to the crank case chamber is called…..(Blow bye, Blow down, leakage, Seepage)
30.02 Breather is component of ……..system (Air supply, Fuel Supply, Lubricating, Cooling)
30.03 Weak relief valve will result in……lube oil pressure (Low, High)

Question	Answer	Question	Answer
30.01		30.04	
30.02		30.05	
30.03		30.06	

Objective:

31.01 Location of strainer is inside…….(Sump, Cylinder Block, Timing Cover, Head)
31.02 Location of lube oil pump on KTA-1150-L engine is (In sump, on cylinder block, on Crank case, on Head)
31.03 Location of relief valve on KTA-1150-L engine is (in sump, on cylinder block in……..(oil pump in main oil gallery)
31.04 Super bypass filter is …….then inline lube oil filters (finer, loarser)
31.05 Lube oil pump is…….driven (Belt, Gear)
31.06 During starting of Cummins engine by pass switch is pressed to bypass……(Bypass filter lube oil safety, Circuit, Shutdown valve, Turbocharger)

Question	Answer	Question	Answer
31.01	Sump	31.04	finer
31.02	on Crank case	31.05	Belt
31.03	oil pump	31.06	Lube oil safety

Objective:

32.01 Temperature of burning air fuel mixture is of the order of..(25^0C, 250^0C, 2500^0 C, 1500^0C)
32.02 Temperature of engine must be controlled in the range of ……(71^0C-88^0C, 74^0C-85^0C, 200^0C-250^0C
32.03 Cooling system should become functional when engine(Worms up, Code down, is started, runs at rated rpm)
32.04 Engine warms up faster in……..….system (Air cooling, Water Cooling)
32.05 Air cooled engines are……..than water cooled engines (Lighters, Heavier)
32.06 Air cooling is……..efficient than water cooling (Less, More)
32.07 Total length of finned cylinder barrel is.....times the cylinder bore (1 to1.5, 0.5 to 1.5, 1.5 to 2.0)

Question	Answer	Question	Answer
32.01	2500^0 C	32.04	Lighters
32.02	200^0C-250^0C	32.05	Less
32.03	Worms up	32.06	1 to1.5

Objective:

33.01 The normal operating water temperature of the engine should be...(71^0C-88^0C, 74^0C-82^0C)
33.02 The most suitable operating water temperature of engine is assumed……(71^0C-88^0C, 74^0C-85^0C, 82^0C)
33.03 Radiator upper tank is connected to the water of the engine (outlet, Inlet)
33.04 Radiator lower tank is connected to the water of the engine (outlet, Inlet)
33.05 Thermostat valve starts opening at …….(71^0C, 74^0C, 85^0C 88^0C)
33.06 Thermostat valve opens completed at …….(71^0C, 74^0C, 85^0C 88^0C)
33.07 When Thermostat, valve opens completely water flows through the…(Radiator, Water Pump)
33.08 When Thermostat, valve closed completely water flows through the…(Radiator, Water Pump)
33.09 Radiator fan……air (Draws, Throws)
33.10 Relief valve and vaccum valve is provided in radiator capacity in.....system(Closed, Open)
33.11 Relief valve is set to open at a pressure of……kg/cm^2(0.55 to 1.10, 28kg/cm^2, 6.5-7.0kg/cm^2)
33.12 A 1.10kg/cm^2 valve would provide a boiling point of ……..(100^0C, 125^0C, 85^0C, 75^0C)
33.13 Coolant additive concentrate is used in engines (Cummins, MWM)
33.14 Nalcool 2000 is used in……engines (Cummins, MWM)
33.15 The ratio of CAC: Water is…… (1:15. 1:30, 1:20)
33.16 The ratio of Nalcool 2000: Water is……(1:15. 1:30, 1:20)
33.17 Maxthesm additive is used in ……engines (Cummins, MWM)
33.18 The ratio of Maxtherm additive: Water is……. (1:15. 1:30, 1:20)
33.19 In hot and shut down engine water should be…… (Fitted, not fitted)
33.20 In hot running engine water……fitted slowly (May be, should not be)

Question	Answer	Question	Answer	Question	Answer
33.01	71^0C-88^0C	33.08	Water Pump	33.15	1:15
33.02	82^0C	33.09	Draws	33.16	1:30
33.03	outlet	33.10	Closed	33.17	MWM
33.04	Inlet	33.11	0.55 to 1.10	33.18	1:20
33.05	74^0C	33.12	125^0C	33.19	not fitted
33.06	85^0C	33.13	Cummins	33.20	May be
33.07	Radiator	33.14	MWM		

Objective:

33.01 Internal leak of water may produce……vapour in exhaust gases (White, black, brown, Colourless)
34.02 Defective cylinder head gasket results in…….leakage (Internal, External)
34.03 Recommended pH value of coolant on Cummins engine is……(7, less than 7, 8.5 to 10.5, 8.0 to 10.0)
34.04 Recommended pH value of coolant on MWM engine is……(7, less than 7, 8.5 to 10.5, 8.0 to 10.0)
34.05 Overcooling…….volumetric efficiency (Increases, decreases)
34.06 Over cooling……Thermal efficiency (Increases, Decreases)

Question	Answer	Question	Answer

34.01	White,	34.04	8.0 to 10.0
34.02	Internal	34.05	Increases
34.03	8.5 to 10.5	33.06	Decreases

Objective:

35.01 Blower is used in…….cooling system (Air, Water)
35.02 Fins are used in…….cooling system (Air, Water)
35.03 Radiator fan is used in…….cooling system (Air, Water)
35.04 In India, Thermostat valve is used in ……Cooling system (Air, Water).
35.05 Deutz BF 12L 513C is equipped with……..cooling system (Air, Water)
35.06 MWM (Greaves) TBD 232 viz engine is equipped with……cooling system (Air, Water)
35.07 Cummins KTA-1150-L engine is equipped with……..cooling system (Air, Water)
35.08Kirloskar HA 694 is equipped with……cooling system (Air, Water)
35.09 SUN 6105I engine is equipped with……..cooling system (Air, Water)
35.10 Air charge cooler on Duetz BF 12L 513C is ……..cooled (Air, Water)
35.11 Inter cooler on MWM TBD 232 V12 Engine is……..cooled (Air, Water)
35.12 After cooler on Cummins engines is ……..coold (Air, Water)

Question	Answer	Question	Answer	Question	Answer
35.01	Air	35.05	Air	35.09	Air
35.02	Air	35.06	Water	35.10	Air
35.03	Water	35.07	Water	35.11	Water
35.04	Water	35.08	Air	35.12	Water

Objective:

36.01 Engine oil is checked in…….Schedule (Daily, 50hrs, 100hrs, 200hrs)
35.02 Coolent level is checked in……..schedule (Daily, 50hrs, 100hrs, 200hrs)
36.03 Air cleaner vaccum indicator is checked in……schedule (Daily, 50hrs, 100hrs, 200hrs)
36.04 V-belt tension is checked in……schedule (Daily, 50hrs, 100hrs, 200hrs).
36.05 Air tank is draned……..the days work (After, Before)
36.06 Water separator is drained…….starting the engine (Before, After)
36.07 V-belt condition is checked in……schedule (Daily, 50hrs, 100hrs, 200hrs)
36.08 Brake shoes condition is checked in……..schedule (Daily, 50hrs, 100hrs, 200hrs)
36.09 Electrolyte level and specific gravity of batteries is checked in……..schedule. (Daily, 50hrs, 100hrs, 200hrs)
36.10 Outer air filters is cleaned in…….schedule. (Daily, 50hrs, 100hrs, 200hrs)
36.11 High water temperature safely device is checked in ……..schedule. (Daily, 50hrs, 100hrs, 200hrs)
36.12 Low lube oil pressure safely deice is checked in.....schedule. (Daily, 50hrs, 100hrs, 200hrs)
36.13 Mounting Bolt of engine is examined in……..schedule. (Daily, 50hrs, 100hrs, 200hrs)
36.14 In KTA-1150-L engine, oil is replaced at……..….hrs (100, 200, 250, 1000)
36.15 In KTA-1150-L engine, lube oil filter is replaced at……..….hrs (100, 200, 250, 1000)
36.16 In KTA-1150-L engine fuel filter is replaced at……..….hrs (100, 200, 250, 1000)
36.17 In KTA-1150-L engine oil by pass filter is replaced at…….hrs (100, 200, 250, 1000)
36.18 Crank case Breather is cleaned in…….schedule (100, 200, 250, 1000)
36.19 Outer and Inner engine air cleaner element is replaced at…..hrs (200, 250, 500, 1000)
36.20 Self Starter is overhauled in schedule…….. (III, IV, V, VI)

36.21 Alternator is overhauled in schedule……. (III, IV, V, VI)
36.22 Injector is overhauled in schedule (III, IV, V, VI)
36.23 Fuel pump is overhauled in schedule…… (III, IV, V, VI)
36.24 Fuel pump is overhauled in schedule…… (III, IV, V, VI)
36.25 Rocker cover Gasket is replaced in schedule……. (III, IV, V, VI)
36.26 Diesel Tank is cleaned in schedule……. (III, IV, V, VI)
36.27 Schedule V is done at……..Hours of engine running (200, (1000, 3000 & 5000), (2000 & 4000), 6000)
36.28 Water Separator and Air Oiler is overhauled in schedule……. (III, IV, V, VI)
36.29 Air unloaded is overhauled in schedule……. (III, IV, V, VI)
36.30 Schedule VI is done at……..Hours of engine running (200, (1000, 3000 & 5000), (2000 & 4000), 6000)
36.31 Engine mounting pad is replaced in schedule……..(III, IV, V, VII).
36.32 Dynamic Balance of vibration Damper is checked is schedule……..(III, IV, V, VII).
36.33 RPM of engine radiator from should not be less than……..(900, 1600, 2100, 2300).
36.34 In checking Tension of V. belt, deflection at Centre should not be more than……..mm. (10mm, 15mm, 25.4mm 20mm).

Question	Answer	Question	Answer	Question	Answer
35.01	Daily	35.13	100	35.24	V
35.02	Daily	35.14	250	35.25	V
35.03	Daily	35.15	250	35.26	V
35.04	Daily	35.16	250	35.27	(1000, 3000 & 5000)
35.05	After	35.17	250	35.28	VI
35.06	Before	35.18	200	35.29	VI
35.07	50hrs	35.19	500	35.30	(1000, 3000 & 5000)
35.08	50hrs	35.20	V	35.31	VII
35.09	50hrs	35.21	V	35.32	VII
35.10	50hrs	35.22	V	35.33	1600
35.11	100hrs	35.23	V	35.34	15mm
35.12	100hrs				

Objective:

37.01 Contamination indicator (pilot lamp) for dry type air cleaner is checked in …….schedule. (Daily,50hrs, 100hrs, 200hrs)
37.02 Outer air cleaner element of Deutz Engine is cleaned with……pressure of dry air. (1.5bar, 2.5 bar, 3.5bar, 6.5bar)
37.03 Oil in the wet type air cleaner is changed in ……Schedule (Daily, 50hrs, 100hrs, 200hrs).
37.04 Battery plug connection are cleared and petroleum jelly is applied in…….. (Daily, 50hrs, 100hrs, 200hrs).
37.05 Minimum Specific gravity should be……..(1.180, 1.110, 1.240, 1.260)
37.06 Fuel pre-filler (Wire mesh) is cleaned at……engine hrs schedule at (50, 100, 200, 1000)
37.07 In Deutz BF 12L 513C engine , twin stage fuel filter element is changed in…….. Engine hrs. Schedule (50, 100, 200, 1000)
37.08 In Deutz BF 12L 513C, Engine, oil is changed at engine …….hrs. (100, 200, 250, 300)
37.09 Clutch Drive shaft bearings are greased in engine hrs. …...schedule. (50, 100, 200, 1000)
37.10 Clutch fluid level in container is checked in engine hrs. …...schedule. (50, 100, 200, 1000)
37.11 Cooling coil is decarbonizes in schedule (IV, V, VI, VII)
37.12 High pressure fuel pipes clamps are checked in schedule…….. (IV, V, VI, VII)
37.13 Crankcase Breather element is replaced in schedule…….. (IV, V, VI, VII)
37.14 In Deutz BF 12L 513C engine temperature indicator is tested in schedule (IV, V, VI, VII)
37.15 In Deutz BF 12L 513C engine fuel injection pump and injectors are caliberated in schedule. (IV, V, VI, VII)

37.16 Blower Assembly is overhauled in schedule …….(IV, V, VI, VII)

Question	Answer	Question	Answer	Question	Answer
37.01	Daily	37.07	100	37.12	V
37.02	1.5bar	37.08	200	37.13	V
37.03	50hrs	37.09	200	37.14	V
37.04	50hrs	37.10	200	37.15	VI
37.05	1.240	37.11	V	37.16	VII
37.06	100				

Objective:

38.01 Write Recommended coolant water temperature for MWM engine……(75^0C to 85^0C, 71^0C to 88^0C None

38.02 Maximum coolant temperature of MWM engine is ……(71^0C, 85^0C, 88^0C, 95^0C)

38.03 Safety circuit of MWM engine…….if water temperature rises above 95^0C (gives buzzer sound, shuts down the engine)

38.04 As per RDSO Maintenance schedule lube oil of MWM is to be changed at ……(100hrs, 125hrs, 200hrs, 250hrs)

38.05 As per RDSO maintenance schedule fuel filters of MWM engine are to be changed at…….hrs. (100, 125, 200, 250)

38.06 As per RDSO maintenance schedule centrifuge of MWM engine is to be cleared at…….hrs. (100, 125, 200, 250)

38.07 Valve tappet clearance of MWM TBD 232 V12 engine is…….mm in cold (0.2, 0.3, 0.14, 0.27)

38.08 As per RDSO maintenance schedule breather of MWM engine is to be cleaned at…….hrs. (100, 125, 200, 250)

38.09 As per RDSO maintenance schedule compressor breather of MWM engine is to be cleaned at…….hrs. (100, 125, 200, 250)

38.10 As per RDSO maintenance schedule filter of MWM engine is cleaned at…….hrs. (100, 125, 200, 250)

Question	Answer	Question	Answer
38.01	75^0C to 85^0C	38.06	125
38.02	95^0C	38.07	0.2
38.03	shuts down the engine	38.08	200
38.04	125hrs	38.09	200
38.05	125	38.10	200

Objective:

39.01 Priming of engine is done to maintain ……..film on bearing (Coolant, Lube oil, Fuel, Grease).

39.02 Uniform metered fuel and…….are requirements of fuel regulation (Fine spray, Scattered Spray, Thick droplets)

39.03 Over speeding causes piston to strike and break……(Rings, Injectors, Valves, Cylinder Head)

39.04 During Normal operations, over speeding of engine is protected by (FIP, Injector, Governor, Accelerator)

39.05 For controlling corrosion in MWM engine……..is added. To water in ratio 1:30 (CAC, Nalcool 2000, Nalprep)

Question	Answer	Question	Answer
39.01	Lube oil	39.04	Governor
39.02	Fine spray	39.05	Nalcool 2000
39.03	Valves		

Objective:

40.01 ……..most ring is assembled first (Bottom, Top)
40.02 Piston rings are inserted through piston…….side (Skirt Top)
40.03 The end gap of piston ring is approximately …….per inch of piston diameter (0.001", 0.01", 0.1", 0)
40.04 The gap for all the piston rings……fall in one line. (Should, Shouldn't)
40.05 While fitting the piston rings apply sufficient quantity of …….oil (Lube, Hydraulic, Gear, Mustard)
40.06 Piston rings should fit……in the grooves (Tight, free)
40.07 For easy sliding of piston with rings into liner…..is used (Ring expender, ring compressor
40.08 For easy sliding of piston with rings into liner…..is used (Ring expander, ring compressor
40.09 To ensure piston facing in right direction, notch or other markings must face to the ….of the engine (Front, Scare)
40.10 In two stroke cylinders, ring gap……face the port otherwise they may break (Shouldn't)

Question	Answer	Question	Answer	Question	Answer
40.01	Bottom	40.05	Lube	40.09	Front
40.02	Top	40.06	Free	40.10	Should,
40.03	0.001"	40.07	Ring expender		
40.04	Shouldn't	40.08	Ring compressor		

Objective:

41.01 In cummins engines, valve clearance is gap between rocker arm and…….(Valve stem, Cross head, Push rod).
41.02 In MWM/Kirloskar/Deutz Engines valve clearance is gap between rocker arm and….(Valve stem, Cross head, Push Rod).
41.03 Valve clearance is got max^{m} when piston is at TDC in ……Stroke, (Suction, Compression, Power, Exhaust)
41.04 At TDC of ……strokes, both the rocker arms will be loose. (Suction, Compression, Power, Exhaust)
41.05 At TDC of ……strokes, both the rocker arms will be loose. (Suction, Compression, Power, Exhaust)
41.06 To bring the piston at TDC of Compression stroke from TDC of exhaust stroke……..……..revolution of flywheel is made (1/2, One, Two)
41.07 From delivery pipe of FIP, fuel starts coming, when corresponding piston is at TDC of ……..stroke (Suction, Comparison, Power, Exhaust)
41.08 Cummins injector is actuated at the end of…..... (Suction, stroke, Compression, Power, Exhaust.)
41.09 Engine should be rotated in the ……..of rotation (Direction, Opposite Direction)
41.10 To get next cylinder in the position of valve clearance adjustment according to firing order, the engine needs to be rotated by…… (180^0, 360^0, $\frac{720^0}{n}$)
41.11 A 6 cylinder engine needs to be rotated by ……..to get next cylinder for valve adjustment according to firing order (90^0, 120^0, 180^0, 360^0)
41.12 A 12 cylinder engine needs to be rotated by ……..to get next cylinder for valve adjustment according to firing order (90^0, 60^0, 120^0, 180^0)
41.13 Inlet valve clearance of Cummins engines are……..(0.2mm, 0.3mm, 0.014", 0.027")
41.14 Exhaust valve clearance of Cummins engines are……. (0.2mm, 0.3mm, 0.014", 0.027")
41.15 Inlet valve clearance on MWM engine is…….... (0.2mm, 0.3mm, 0.014", 0.027")

41.16 Exhaust valve clearance on MWM engine is……..... (0.2mm, 0.3mm, 0.014", 0.027")
41.17 Inlet valve clearance on BCM Deutz engine is……..... (0.2mm, 0.3mm, 0.014", 0.027")
41.18 Exhaust valve clearance on BCM Deutz engine is……..(0.2mm, 0.3mm, 0.015", 0.27")
41.19 Inlet valve clearance on PQRS HA 694 engine is…….. (0.2mm, 0.3mm, 0.015", 0.027")
41.20 Exhaust valve clearance on PQRS HA 694 engine is…....(0.2mm, 0.3mm, 0.15", 0.027")
41.21 Rocker lever of exhaust valve aligns with.……....manifold (Exhaust, Inlet)
41.22 Rocker lever of inlet valve aligns with.……....manifold (Exhaust, Inlet)

Question	Answer	Question	Answer	Question	Answer
41.01	Cross head	41.09	Direction	41.17	0.2mm
41.02	Valve stem	41.10	$\frac{720^0}{n}$	41.18	0.3mm
41.03	Compression	41.11	120^0	41.19	0.015"
41.04	Compression	41.12	60^0	41.20	0.15"
41.05	Exhaust	41.13	0.014"	41.21	Exhaust
41.06	One,	41.14	0.027"	41.22	Inlet
41.07	Comparison	41.15	0.2mm		
41.08	Comparison	41.16	0.2mm		

Objective:

42.01 'INJ' mark on flywheel……the TDC mark on flywheel. (Leads, Lags)
42.02 In injection lining adjustment 1 no. plunger pump is matched with…..…cylinder piston (1 No., 2 No., 3 No., 5 No.)
42.03 'Spill cut off' is used in…….adjustment (Injection lining, valve clearance)
42.04 Idle adjustment stop screw is provided on…….. (Feed pump, Injector, FIP, Filter)
42.05 For injection timing adjustment….. No cylinder is brought at TDC of compression stroke. (1, 2, 3, 5)
42.06 FIP coupling is tightened with engine coupling when one no. plunger…..……..lifting (Starts, Ends, is at mid of)
42.07 During fine adjustment of injection timing control rack is kept in ….....Position (Zero, Full, Mid)
42.08 If injection pressure is less then adjusting screw of injector is ….(Tightened, Loosened)
42.09 If injection pressure is more then adjusting screw of injector is ….(Tightened, Loosened)
42.10 In leak off test of injector a pressure of…….bar is built-up (180bar, 150bar, 28bar, 1 bar)
42.11 In leak off test pressure is maintained for (1, 5, 10, Nothing Specific)
42.12 In spray test spray should be…….(Fully atomized, Splitted drops, Current of fuel)

Question	Answer	Question	Answer	Question	Answer
42.01	Leads	42.05	1	42.09	Loosened
42.02	1 No.,	42.06	Starts	42.10	150bar
42.03	Injection lining	42.07	Full	42.11	10
42.04	FIP	42.08	Tightened	42.12	Fully atomized

Objective:

43.01 'In alignment check of crankshaft run out on intermediate journals should not be more than……(0.001", 0.027", 0.002", 0.014")
43.02 In roughness check of crank shaft……..piece is rubbed on surface (Copper, Aluminiumb, bronze, White metal)
43.03 ……colour indicates overheating (Red, Brown, Bluish)
43.04 Readings on intermediate journals increase/decrease gradually indicates…….(Bow, Twist, Unbalanced)

43.05 If a pair of crankpins on TDC falls to BDC after pushing it indicates static…… (Balance, Unbalance)

43.06 If journal and pins are tapered or out of round more than…….they should be reground (0.001", 0.003", 0.014", 0.002")

Question	Answer	Question	Answer
43.01	0.014"	43.04	Bow
43.02	Copper	43.05	Unbalanced
43.03	Bluish	43.06	0.003"

Objective:

44.01 Shutdown mechanism provided on engine stop…….
(a) Air supply (b) Fuel supply (c) Coolent flow (d) Exhuast flow

44.02 Governor provided on engine regulates…….
(a) Air supply (b) Fuel supply (c) Coolent flow (d) Exhuast flow

44.03 Craking speed for self starting the engine is…….
(a) 50-100rpm (b) 100-150rpm (c) 150-200rpm (d) 1000rpm

44.04 Thermostat checking temperature is……..
(a) 714^0C (b) 74^0C (c) 85^0C (d) 88^0C

44.05 Poor compression is got remedied by……..
(a) Top overhaul (b) Air Filter cleaning (c) Valve setting (d) Compressor overhauling

Question	Answer	Question	Answer
44.01	b	44.04	c
44.02	b	44.05	a
44.03	c		

Objective:

45.01 Fuel pre-fitted in Deutz BF 12L 513C engine is fitted….Fuel feed Pump (After, Before)

45.02 Fins of cylinders are cleaned during monthly schedule by…….
(a) Air Jet (b) Water Jet (c) Detergent (d) Chemical

Question	Answer	Question	Answer
45.01	Before	45.02	b

Objective:

46.01 What is the S. I. unit of torque marked on torque wrench.
(a) N-m (b) Kg-m (c) ft-lb (d) None

46.02 What is M. K. S. unit of torque marked on torque wrench.
(a) N-m (b) Kg-m (c) ft-lb (d) None

46.03 What is the F. P. S. unit of torque marked on torque wrench.
(a) N-m (b) Kg-m (c) ft-lb (d) None

46.04 Cylinder Head of KTA 1150 L Engine is tightened by givig torque in……..steps.
(a) 2 (b) 3 (c) 3 (d) None

46.05 For KTA 1150 L engine, torque value for cylinder head capacity lubricated cap. Screw (Black) is-
(a) 250-260 ft-lbs (b) 350-370 ft-lbs (c) 339-353 ft-lbs (d) 475-502 ft-lbs

46.06 In KTA 1150 L engine flywheel mounting torque new max is-
(a) 100 ft-lbs (b) 200 ft-lbs (c)120 ft-lbs (d) 200 ft-lbs

46.07 In KTA 1150 L engine flywheel housing mounting torque new max is-
(a) 70 ft-lbs (b) 80 ft-lbs (c)140 ft-lbs (d) 160 ft-lbs

46.08 In KTA 1150 L engine vibration damper alignment mark is permitted upto…..-
(a) ±1”/16 (b)) ±1”/8 (c) ±1”/4 (d) ±1”/2

46.09 In Deutz BF 12L 513C engine, Torque of Rocker cover is …..-
(a) 8.5 N-m (b)) 21 N-m (c) 30 N-m (d) 50 N-m

46.10 In Deutz BF 12L 513C engine Rocker arm setscrew torque is…..-
(a) 8.5 N-m (b)) 21 N-m (c) 30 N-m (d) 50 N-m

46.11 In Deutz BF 12L 513C engine injector mounting torque is…..-
(a) 8.5 N-m (b)) 21 N-m (c) 30 N-m (d) 50 N-m

46.12 In MWM TBD 232 V12 engine cylinder head bolt torque is…..-
(a) 21 N-m (b)) 26 N-m (c) 8 N-m (d) 28 N-m

46.13 In MWM TBD 232 V12 engine flywheel bolt torque is…..-
(a) 21 N-m (b)) 26 N-m (c) 8 N-m (d) 28 N-m

46.14 In MWM TBD 232 V12 engine Main bearing bolt torque is…..-
(a) 21 N-m (b)) 26 N-m (c) 8 N-m (d) 28 N-m

46.15 Crankshaft end clearance worn-limit of KTA 1150 L engine is …..-
(a) 0.007” (b) 0.017 (c) 0.022 (d) None

46.16 In MWM TBD 232 V12 engine crankshaft end float is…..-
(a) 0.1-0.26mm (b)) 0.05-0.030mm (c) 0.1-0.2 mm (d) None

46.17 In MWM TBD 232 V12 engine crankshaft run out max^{m} is…..-
(a) 0.05mm (b)) 0.30mm (c) 0.10mm (d) 0.03mm

Question	Answer	Question	Answer	Question	Answer
46.01	a	46.07	d	46.13	b
46.02		46.08	a	46.14	d
46.03	c	46.09	a	46.15	c
46.04	c	46.10	b	46.16	a
46.05	b	46.11	c	46.17	a
46.06	d	46.12	a		

Track Machine and Working Principle

Objective:

27.01 FRM-80 machine length is……..
(a)39.47m (b) 30.60m (c) 24.73m (d) 37.34m

27.02 Complete Machine (FRM-80) operation and movement is accomplished by-
(a) One Engine (b) Two Engine

27.03 How many cutting chain units are on FRM-80
(a) One (bi) Two

27.04 Each cutting chain of FRM-80 consists of ……..scraper plates
(a) 82 (b) 43

27.05 Total Nos. of conveyor belts on FRM-80 is……

(c) 6 (b) 4

27.06 Total Nos. of hydraulic pumps provided on FRM-80 is……
(a) 14 (b) 5 (c) 18

27.07 Total Nos. of Axles in FRM-80 is……
(a) 4 (b) 6 (c) 5

27.08 How many powered axles are provided on FRM-80.
(a) 4 (b) 6 (c) 2 (d) 5

27.09 Engine provided on FRM-80 is-.
(a) VTA 1710 L (b) KTA 1150L (c) BF-12L 513C (d) NTA 855L

27.10 How many pump-motor combinations are provided on FRM-80-.
(a) 4 (b) 5 (c) 1 (d) NIL

27.11 How many cutting chain caps are provided I in a cutting chain unit-.
(a) 43 (b) 86 (c) 90 (d) 82

27.12 What is the sequence of screens on FRM-80 starting from Top.
(a) 80' 50, 32 (b) 32, 50, 80 (c) 50, 80, 32

27.13 Anti-collision safety device is provided on FRM-80 on.
(a) Waste conveyor Unit (b) Main conveyor unit
(c) Distributor belt units (d) Excavating conveyor belt units.

Question	Answer	Question	Answer	Question	Answer
27.01	a	2706	a	27.11	c
27.02	a	27.07	b	27.12	a
27.03b	b	27.08	a	27.13	a
27.04	b	27.09	a		
27.05	a	27.10	b		

Objective:

28.01 Cutter chain pumps of FRM-80 is an…….. type pump.
(a) Axial piston (b) Gear (c) Vane (d) Reciprocating

28.02 Drive Pump on FRM-80 is a ……type pump.
(a) Axial piston (b) Gear (c) Vane (d) Reciprocating

28.03 FRM-80 is provided with…….drive.
(a) Hydrostatic (b) Mechanical (c) Pneumatic

28.04 Brakes on FRM-80 are actuated by……power.
(a) Hydrostatic (b) Mechanical (c) Pneumatic

28.05 Progress of FRM-80 is……per effective Hr.
(a) $550m^3$ (b) $650m^3$ (c) $350m^3$

28.06 Self propelled speed of FRM-80 is……

(a) 60 kmph (b) 50 kmph (c) 40 kmph (d) 30 kmph

28.07 Wheel diameter of FRM-80 is……
(a) 900mm (b) 730mm (c) 700mm (d) 30 kmph

Question	Answer	Question	Answer	Question	Answer
28.01	a	28.04	c	28.06	c
28.02	a	28.05	a	28.07	a
28.03	a				

Objective:

29.01 Cutting chain carries shoulder ballast from chain trough to the……..
(a) Excavating conveyor belt (b) Screen unit (c) Main Conveyor (d) 37.34m

29.02 Excavating of shoulder ballast is done by-
(a) Cutting plates (b) Cutting Chain (c) Excavating belt

29.03 Excavated shoulder ballast is fed to the screen unit by-
(a) Cutting Chain (b) Excavating conveyor belt (c) Main conveyor belt.

29.04 Trolley refuse sleepers should be removed and placed almost……away from the centre of track.
(a) 2.05m (b) 4.1m (c) 3m (d) Not required.

29.05 Earthling bonds removal is……in FRM-80 operation.
(a) Required (b) Not required

29.06 In FRM-85 waste conveyor is fitted in……of machine:
(a) Front (b) Rear

29.07 How many conveyor belts are provided on FRM-85
(a) 4 (b) 6 (c) 5 (d) 2

29.08 Length of FRM-85 is……...
(a) 39.47m (b) 38.64m (c) 30.60m (d) 37.34m

Question	Answer	Question	Answer
29.01	a	29.05	a
29.02	a	29.06	a
29.03	b	29.07	c
29.04	c	29.08	b

Objective:

30.01 KSC-600 is a
(a) SBCM (b) BCM (c) BRM (d) DGS

30.02 KSC 600 consists……excavating wheels-
(a) One (b) Two

30.03 KSC 600 is a make machine-
(a) Plasser (b) Kershaw (c) BEML.

30.04 Trolley refuse sleepers should be removed and placed almost……away from the centre of track.
(a) 2.05m (b) 4.1m (c) 3m (d) Not required.

Question	Answer	Question	Answer
3001	a		
30.02	b		
30.03	b		

Objective:

31.01 Engine fitted on KSC 600 is
(a) KTA 115DL (b) VT 28P (c) NTA 855L

31.02 Length of KSC-600 over buffers is-
(a) 39.47m (b) 37.34m

31.03 Self propelled speed of KSC 500 is-
(a) 40Km.

Question	Answer	Question	Answer
31.01	a		
31.02	b		
31.03	a		

Objective:

32.01 In KSC-600 Mud pockets underneath the sleeper ends are broken by-
(a) Scarifier (b) Excavating wheel.

32.02 Shaping of reclaimed ballast is done by-
(a) Shoulder regulator (b) Broom Assembly

32.03 Sweeping of track is done by-
(a) Shoulder regulator. (b) Broom Assembly

Question	Answer	Question	Answer
31.01	a		
31.02	a		
31.03	a		

Objective:

35.01 TLE is a …….tome capacity machine.
(a) 5 (b) 9 (c) 12

.

35.02 HRCS is……..tome capacity machine-
(a) 5 (b) 12 (c) 12

35.03 TRM is a …….tome capacity machine.-
(a) 5. (b) 9 (c) 12

35.04 PQRS is a ……system of track renewal-
(a) Fully Mechanized (b) Semi-Mechanized

35.05 PQRS lays ……-
(a) Prefabricated panels (b) Individual Sleepers

35.06 PQRS portals consists……side frames-
(a) One (b) Two (c) Four

35.07 HRCS is ……wheel drive.
(a) 2 (b) 4

35.08 TLE is ……wheel drive.
(a) 2 (b) 4

35.09 In HRCS Portal, for Bridge lifting lowering …….chain is used.
(a) Simplex (b) Duplex

35.10 In HRCS Portal, for frame lifting/lowering…….chain is used.
(a) Simplex (b) Duplex

Question	Answer	Question	Answer	Question	Answer
35.01	b	35.05	a	35.09	b
35.02	c	35.06	b	35.10	a
35.03	b	35.07	b		
35.04		35.08	a		

Objective:

36.01 In a 12.6m Service Rail Pannel how many sleepers are assembled @ 60mm C/C spacing.
(a) 20 (b) 21 (c) 22

.

36.02 For 60m sleeper spacing, length of service rail used is…….-
(a) 13m (b) 12.6m (c) 12m (d) 9.1m

36.03 PQRS Base Depot should have three sidings of-
(a) 250m (b) 350m (c) 500m

36.04 PQRS sidings have a shunting neck of -
(a) 250m (b) 350m (c) 500m

36.05 At least…….sidings should be provided with A.T. in a PQRS Base Depot-

(a) One (b) Two (c) Three

Question	Answer	Question	Answer
36.01	b	36.05	a
36.02	c		
36.03	b		
36.04			

Objective:

37.01 If Rail Renewal is to be done simultaneously, at should be made with-
(a) New Rails (b) Existing Track Rails

.

37.02 Auxiliary Track (A.T.) gauge of PQRS is-
(a) 3050mm (b) 3400mm

37.03 In A.T. Wooden Blocks size is-
(a) 560 x 250 x 125 Cube mm (b) 500 x 250 x 125 Cube mm

37.04 Sleeper spacing in A. T. is -
(a) 60 cm (b) 65 cm (c) 1.5 to 2.0m

37.05 A.T. level should not be more than ……..mm higher than the existing track-
(a) 40mm (b) 150mm (c) 0mm

37.06 Normal working Mode of PQRS is-
(a) Pulling (b) Pushing (c) Porting.

Question	Answer	Question	Answer
37.01	a	37.05	b
37.02	b	37.06	
37.03			
37.04	c		

Objective:

38.01 For ATRT working A.T. is required or not/
(a) Required (b) Not required.

.

38.02 For ATRT working panel fabrication is required or not/
(a) Required (b) Not required.

38.03 CTR can be done or not by ATRT/
(a) Yes (b) No

38.04 Beam car is a component of machine-
(a) ATRT (b) PQRS (c) T-28

38.05 In ATRT function of dynamic plough is to-

(a) Level ballast bed (b) Thread out rails (c) Threads in rails

38.06 In ATRT, function of indexing wheel is to-
(a) Direct rails (b) Direct Sleepers (c) Give signal for sleeper spacing

38.07 How many new tie conveyers are fitted on ATRT-
(a) 3 (b) 2 (c) 4

38.08 Handling car is a component of -
(a) ATRT (b) PQRS (c) T-28

38.09 How many oild Tie conveyors are fitted on ATRT-
(a) 3 (b) 2 (c) 4

38.10 Magazine rollers are used in handling of-
(a) Released sleepers (b) New sleepers

38.11 Power car is a ……..axle vehicle-
(a) 4 (b) 2

38.12 Engine provided on power car of ATRT is-
(a) NTA 855 (b) KTA 1150 (c) 6BT5.9

38.13 Engine provided on gantry of ATRT is-
(a) NTA855 (b) KTA1150 (c) 6BT 5.9

Question	Answer	Question	Answer	Question	Answer	Question	Answer
38.01	b	38.05	a	38.08	a	38.11	a
38.02	b	38.06	c	38.09	b	38.12	a
38.03	a	38.07	a	38.10	b	38.13	c
38.04	a						

Objective:

39.01 Normally lead from ATRT Base depot should be-
(a) 30-40 Km. (b) 5-10 Km..

.

39.02 A.T. Gauge in base Depot of ATRT should be-/
(a) 1676mm (b) 3400mm. (b) 3050mm

39.03 Normally …….Nos. BFRs should be modified for one Set of ATRT
(a) 30 (b) 10

39.04 On One BFR of ATRT……Sleepers are loaded in 4 Tiers.-
(a) 80 (b) 160 (c) 20

39.05 On ATRT BFR……..sleeper are loaded in a layer of stack-
(a) 80 (b) 160 (c) 20

39.06 On one BFR of ATRT …….. stack of sleeper are loaded-
(a) One (b) Two

39.07 Gantry Track gauge on ATRT is kept-

(a) 3400 mm (b) 1676 mm (c) 3050 mm

39.08 BFR is equipped with…….coupling-
(a) Screw (b) CBC

39.09 BRH is equipped with…….coupling-
(a) Screw (b) CBC

39.10 In Rake of ATRT one/two empty BFRs are placed just behind of
(a) Engine (b) Loaded BFR (c) ATRT Beam car

39.11 Empty BFR are attached in ATRT rake to-
(a) Safe Gantry Movement (b) To load released sleepers-

39.12 Progress of ATRT is…….-
(a) 10 Sleeper/eff. minute (b) 21 Sleeper/eff. Minute. (c) 6BT5.9

39.13 Considering 80 minutes ineffective time in a 4hrs ATRT black, how many sleepers may be laid-
(a) 1600 (b) 160 (c) 3360

39.14 Considering 80 minutes ineffective time in a 4hrs ATRT black, how many sleepers may be laid, how many pendrors & rubber pads will be repairs--
(a) 6400 & 3200 (b) 640 & 320 (c) 14440 & 7220

Question	Answer	Question	Answer	Question	Answer	Question	Answer
39.01	a	39.05	b	39.09	b	39.13	a
39.02	b	39.06	b	39.10	a	39.14	a
39.03	a	39.07	c	39.11	a		
39.04	b	39.08	a	39.12	a		

Objective:

40.01 New rails are laid at a distance of……meters from Track Centre-
(a) 1.0 . (b) 1.5 (c) 2.5 m

.

40.02 Sled is positioned on……..-/
(a) Ballast (b) Rail seat of old sleepers (c) Rail Seat of new sleepers

40.03 Sled is loaded by and fastened wit-
(a) Handling car common bogie (b) Handling car front bogie (c) Power car bogie.

40.04 On One BFR of ATRT……Sleepers are loaded in 4 Tiers.-
(a) 80 (b) 160 (c) 20

40.05 With application of DTS with relaxation of speed is possible is …….days-
(a) 10 (b) 6 (c) 8

40.06 Fastening removal is required or not in ATRT-
(a) Required (b) Not required

40.07 Released rails are picked up by -
(a) ATRT itself (b) Gantry (c) UTV

40.08 Placement of rubber pad in ATRT is done-
(a) Manually (b) Mechanics

40.9 Rail renewal in ATRT is done-
(a) Manually (b) Mechanized

40.10 Removal of old rail in ATRT-
(a) Manually (b) Mechanized

Question	Answer	Question	Answer	Question	Answer
40.01	b	40.05	b	40.09	b
40.02	b	40.06	a	40.10	b
40.03	a	40.07	d		
40.04	b	40.08	a		

Question	Answer	Question	Answer	Question	Answer
02.01	c	02.05	a	02.09	d
02.02	b	02.06	a	02.10	a
02.03	b	02.07	a	02.11	a
02.04	a	02.08	a	02.12	B

Workshop Technology

Objective:

01.01 Forging is a plastic deformation process-
(a) True . (b) False
.
01.02 Low and medium carbon steels are readily forged-/
(a) True . (b) False

01.03 High carbon and alloy steels are readily forged-
(a) True . (b) False

01.04 Stainless steels are forged specially for aerospace uses-
(a) True . (b) False

01.05 Forge ability decreases with temperature upto a point at which grain growth becomes excessive-
(a) True . (b) False

01.06 Which of the following is a good forgeable material-?
(a) Carbon/low alloy steels (b) Martens tic stainless steel (c) Iron base super alloys.

01.07 Economical, easily controlled and mostly used furnace is-
(a) Gas, oil (b) Electric Resistance (c) Induction healing

01.08 Temperature to begin forging for soft low carbon steel is-
(a) 1250^0C-1300^0C (b) 800-850^0C

01.09 Brass nd Bronze alloys are heated to about…….for forging-
(a) 600-950^0C (b) 350^0C-500^0C

01.10 Welding is a typical forging operation-
(a) True . (b) False

Question	Answer	Question	Answer	Question	Answer
01.01	a	01.05	b	01.08	a
01.02	a	01.06	a	01.09	a
01.03	b	01.07	a	0110	a
01.04	a				

Objective:

02.01 Which of the following is not used in hand forging-
(a) Anvil (b) Tongs (d) Feeler (c) Presses

02.02 Large machine part can be forged by hand-/
(a) True . (b) False

02.03 Which of the following does not require repeated heating-
(a) True . (b) False

02.04 Anvil block sense as a rigid support in power hammering-
(a) True . (b) False

02.05 Heavy falling part of hammer is called ram-
(a) True . (b) False

02.06 In smith forging the working surfaces of both the upper and lower dies are-
(a) Flat and horizontal (b) With closed impression.

02.07 Capacity of a hammer is determined by-
(a) Weight (b) Size (c) Shape

02.08 Helve hammers are operated by-

(a) Eccentric (b) Rope (c) Chain (d) Toggle

02.09 Trip hammers are actuated by-
(a) Eccentric (b) Rope (c) Chain (d) Toggle

02.10 Lever spring Hammers are by-
(a) Rocking level (b) Toggle (c) Chain

02.11 Pneumatic hammers has compressor cylinder and ram cylinders-
(a) True. (b) False

02.12 Steam or air hammers inbuilt compressor-
(a) True. (b) False

Question	Answer	Question	Answer	Question	Answer
02.01	c	02.05	a	02.09	d
02.02	b	02.06	a	02.10	a
02.03		02.07	a	02.11	b
02.04	a	02.08	a	02.12	b

Objective:

03.01 Application of pressure and filler metal is essential in welding-
(a) True . (b) False

03.02 Plastic welding is also called……welding-/
(a) Pressure . (b) Fusion (c) Non-pressure

03.03 Fusion welding is also called……..welding-
(a) Pressure . (b) Fusion (c) Non-pressure

03.04 In cold welding……..is applied-
(a) Heat (b) Pressure

03.05 Fusion welding may be-
(a) Autogenous (b) Non-autogenous (c) Both

03.06 If welding temperature is correct it will form-
(a) Plane of weakness (b) Equiarel grains

03.07 Considerable degree of grain refinement occurs due to normalizing in……welding-
(a) Single run (b) Multi run

03.08 Slag and gas inclusions may be higher in…….welding-
(a) Single run (b) Multi run

03.09 Nitrogen appearing as needle on certain planes in crystals causes-
(a) Low impact strength (b) High impact strength

03.10 Stresses setup in the weld by shrinkage may be relieved by annealing -

(a) True. (b) False

Question	Answer	Question	Answer	Question	Answer
03.01	b	03.05	c	03.09	
03.02	a	03.06	b	03.10	a
03.03	c	03.07			
03.04	b	03.08	b		

Objective:

04.01 Oxyacetylene welding is suitable for sheets and plates of thickness 2 to 50mm-
(a) True . (b) False

04.02 Flux is employed during welding of mild steel-/
(a) True . (b) False

04.03 The temperature of oxyacetylene flame in its hottest region is about-
(a) 2500^0C . (b) 1539^0C (c) 3200^0C

04.04 Carburizing flame has excess of-
(a) Acetylene (b) Oxygen (c) Air

04.05 Carburizing flame is necessary for welding of brass-
(a) True (b) False

04.06 High pressure Acetylene cylinders are charged to a pressure of……-
(a) 1Kg/cm^2 (b) 2Kg/cm^2 (b) 154Kg/cm^2

04.07 Oxygen cylinders are charged at a pressure of about-
(a) 1Kg/cm^2 (b) 2Kg/cm^2 (b) 154Kg/cm^2

04.08 Air acetylene welding process attains higher temperature than other gas processes-
(a) True (b) False

04.09 Oxy-hydrogen process was used to weld……milting point metals.-
(a) Low (b) High

Question	Answer	Question	Answer	Question	Answer
04.01	a	04.05	a	04.09	a
04.02	b	04.06	a		
04.03	c	04.07	a		
04.04	a	04.08	b		

Objective:

05.01 Anode is……pole of dc power supply-
(a) Positive . (b) Negative

05.02 1 KWH of electricity will create 250 calories-/
(a) True . (b) False

05.03 Two thirds of heat is generated near……..pole-
(a) Positive . (b) Negative

05.04 Electrode connected to positive pole will burn 50 percent faster than that is connected to negative pole-
(a) True . (b) False

05.05 A.C. welding transformer step down the usual supply voltage (200-400V) to the normal open circuit voltage of-
(a) 50-90V (b) 150-200V (c) 30-50V

05.06 The electric energy consumption per Kg. of deposited metel in A.C. welding is from……-
(a) -04KWH (b) 6-10KWH

05.07 The motor in a D.C. welding has a power factor of-
(a) 0.3 to 0.4 (b) 0.3 to 0.4

05.08 Open circuit (No load) voltage is higher than arc voltage-
(a) True (b) False

05.09 With D.C. current the open circuit voltage must be atleast-
(a) 30 to 35 (b) 30 to 35

05.10 Mean total ampere for a 4mm electrode is about-
(a) 70A (b) 105A (b) 140A

05.11 Mean total ampere for a 3.25mm electrode is about-
(a) 70A (b) 105A (b) 140A

05.12 Resistance welding uses pressure to complete the weld-
(a) True (b) False

Question	Answer	Question	Answer	Question	Answer
05.01	a	05.05	a	05.09	a
05.02	a	05.06	a	05.10	c
05.03	b	05.07	b	05.11	b
05.04	a	05.08	a	05.12	a

Objective:

06.01 For joining parts not subjected to high temperature and excessive loads……used-
(a) Soft soldering . (b) Hard soldering

06.02 Solder composed of lead and tin has a melting range of -/
(a) 150-350^{0}C . (b) 600-850^{0}C

06.03 Flux is used to prevent……..of the surfaces to be soldered-
(a) Oxidation . (b) Rusting (c) Carbides

06.04 Flux is used to dissolve that settle on the metal surfaces during heating process-
(a) Oxides . (b) Rusts (c) Carbides

06.05 Lead……..percent and tin…….percent is used in soft solder-
(a) 37, 63 (b) 63, 37 (c) 50, 50 (d) 58, 42

06.06 Lead……..percent and tin…….percent is used in medium solder-
(a) 50, 50 (b) 37, 63 (c) 58, 42

06.07 Lead……..percent and tin…….percent is used in Electrician solder-
(a) 37, 63 (b) 50, 50 (c) 58, 42

06.08 Open Brazing gives stronger joint than soldering-
(a) True (b) False

06.09 Spelter is used in-
(a) Soldering (b) Brazing

06.10 Spelter fuses…….red heat, but…….the melting temperature of the parts to be joined-
(a) Above, below (b) Below, Above

06.11 Silver bare alloys spelter have a melting range of -
(a) 150-350^{0}C . (b) 600-850^{0}C

06.12 Resistance welding uses pressure to complete the weld-
(a) True (b) False

Question	Answer	Question	Answer	Question	Answer
06.01	a	06.05	a	06.09	a
06.02	a	06.06	a	06.10	a
06.03	a	06.07	c	06.11	
06.04	a	06.08	a		

Objective:

07.01 Maximum……..percent wear in Cross section area is allowed on tamping tool-
(a) 20 . (b) 30 (c) 50

07.02 ……Facing Electrodes are used for welding of tamping tools-/
(a) Hard . (b) Soft

07.03 Thickness of Tamping Tool at top……..mm at bottom……mm is maintained.-
(a) 20, 5 . (b) 5, 20 (c) 140, 70 (d) 70, 140

07.04 Reconding of tamping tool is done by…….welding.-
(a) Electric Arc. (b) Gas

07.05 For recnding of Tamping Tools,……supply is given to Electrode -
(a) Positive (b) Negative

07.06 One welding layer should be cooled before doing another layer-
(a) True (b) False

07.07 Improper cleaning of surface causes…….-
(a) Lack of fusion (b) Under cutting (c) Cracks

07.08 High current and more Arc gap causes……-
(a) Lack of Fusion (b) Under cutting (c) Cracks

07.09 Excess heat generation causes…….-
(a) Lack of Fusion (b) Under cutting (c) Shape Deformation

Question	Answer	Question	Answer	Question	Answer
07.01	a	07.05	a	07.09	c
07.02		07.06	a		
07.03	a	07.07	a		
07.04	a	07.08	b		

Objective:

08.01 For welding of BCM turret gear hardness of the order of…….is maintained-
(a) 350BHN .(b)) 100BHN

08.02 For welding of turret gear……..electrode of Larsen & Tubro is used. -/
(a) C-2RL . (b) 2B

08.03 12 to 14% Mn is available in main links of BCM.-
(a) True . (b) False

08.04 During welding of turret gear half portion is immersed into……..-
(a) Water (b) Oil (c) Acid

08.05 Reconditioning of cutter bar is done by welding-
(a) True (b) False

08.06 Grinding is not required for recondition of turret gear-
(a) True (b) False

Question	Answer	Question	Answer	Question	Answer
08.01	a	08.03	a	08.05	a
08.02	b	08.04	a	08.06	b

Objective:

09.01 Vice consists of both jaws movable-
(a) True .(b) False

09.02 Vice jaws have replaceable jaw plates-/
(a) True .(b) False

09.03 For common work vice jaw opening is.-

(a) 80-140mm . (b) 95-180mm (c) 400-500mm

09.04 Philips screw driver has……..shape……..-
(a) Flat (b) Star

09.05 While using screw drivers, jobs…….kept in hand-
(a) Should be (b) Should not be

09.06 For taking out circlip from engine piston…….circlip pliers is used-
(a) External (b) Internal

09.07 For screwing/unscrewing rail clamp……..spanner is used-
(a) Open ended (b) Adjustable (c) Box (d) C-

09.08 For Allen bolts have…….-
(a) Hex head (b) Hex groove in head (c) Slot inhead

09.09 Stud extractor is used for removing broken bolts/studs-
(a) True (b) False

Question	Answer	Question	Answer	Question	Answer
901	b	09.04	b	09.07	
09.02	a	09.05		09.08	b
09.03	b	09.06	a	09.09	a

Objective:

10.01 Go and no-go gauges reveal actual size of dimension-
(a) True .(b) False

10.02 International standard meter is equal to 1650763.73 vacuum wave length of orange radiation of Krypton-85-/
(a) True .(b) False

10.03 Micrometer is a ……..standard instrument-
(a) End . (b) Length

10.04 Graduated rule or scale is a ……..Instrument-
(a) Precision (b) Non-Precision

10.05 Vernier-calliper is a……Instrument-
(a) Precision (b) Non-Precision

10.06 In external micrometer, beveled edge of thimble is divided into……equal parts-
(a) 50 (b) 10 c) 100

10.07 The micrometer screw has a pitch of…….-
(a) 1mm (b) 0.5mm (c) 2mm (d) C-

10.08 Leat count of micrometer with 50 division on thimble and pitch equal to 0-5mm will be-
(a) Hex head (b) Hex groove in head (c) Slot inhead

10.09 Reading of micrometer = Main Scale reading + Least count X No. of divisions passed reference line on thimble-

(a) True (b) False

10.10 Vernier Calliper has vernier scale whose 50 divisions corresponds to 49mm on main scale. The Least count will be-
(a) 0.01mm (b) 0.02mm (c) 2mm

10.11 Reading of Calliper = Main scale reading + Least count x vernier scale reading-
(a) True (b) False

Question	Answer	Question	Answer	Question	Answer
10.01	b	10.05		10.09	a
10.02	a	10.06	a	10.10	b
10.03	a	10.07	b	10.11	
10.04	b	10.08	a		

Objective:

11.01 Comparators are used for simple and accurate comparison of parts-
(a) True .(b) False

11.02 In dial Indicator with 100 divisions, turn of pointer by one division indicates……travel of plunger-
(a) 1mm .(b) 0.01mm . (b) 0.02mm

11.03 Optical comparators suffer less wear during wage than the mechanical tyoe-
(a) True .(b) False

11.04 Protractor is used for…….measurement-
(a) Linear (b) Angluar

11.05 Direct measurement of angle is done by-
(a) Bevel protractor (b) Sine Bar

11.06 Where precision in measurement of angles is required, is used-
(a) Bevel gauge (b) Angle gauge

11.07 Taper micrometers is ten times faster than older conventional methods-
(a) True (b) False

Question	Answer	Question	Answer	Question	Answer
11.01	a	11.04	b	11.06	b
11.02	b	11.05	a	11.07	a
11.03	a				

Objective:

12.01 Gripping of ring spanner is better than open end spanner.
(a) True .(b) False

12.02 In Showing and unscrewing is faster with-
(a) Open end spanner .(b) Ring spanner

12.03 Allen Key is used for……head bolts-
(a) Hex .(b) Round

12.04 Allen key consists…….sides (Faces)-
(a) 6 (b) 4 (c) 3

12.05 Wing nuts are used for tightening/loosening hacksaw-
(a) True (b) False

12.06 Finisher tap has……..threads ground in Tapper-
(a) 6-8 (b) 3-5 (c) 1-2

12.07 Which of the following is not a component of an external micrometer-
(a) Graduated sleeve (b) Depth Gauge (2) Thimble

12.08 Which of the following is not component of vernier caliper.-
(a) Graduated sleeve (b) Depth Gauge (2) Thimble

Question	Answer	Question	Answer	Question	Answer
12.01	a	12.04	a	12.07	b
12.02		12.05	a	12.08	c
12.03	b	12.06	c		

WORKSHOP TECHNOLOGY

Objective:

13.01 A system which ensures that one component will assemble correctly with any mating component, both being chosen at random is called interchangeable system or a system of limits and fits. .
(a) True .(b) False

13.02 Selective assembly is that in which each part must be selected to fit its mating part-
(a) True .(b) False

13.03 Basic size is the size in relation to which higher commits of variation are determined-
(a) True .(b) False

13.04 Nominal size is used in the precision measurement of parts-
(a) True .(b) False

13.05 Upper deviation is positive or zero-
(a) True (b) False

13.06 Lower deviation is positive or zero-
(a) True (b) False

13.07 Tolerance is equal to algebraic difference between the upper and lower deviations and has an absolute value without sign-
(a) True (b) False

13.08 Tolerance is the difference between the maximum limit of size and minimum limit of size-
(a) True (b) False

13.09 $25+^{0.05}_{-0.03}$ is an example of unilateral tolerance

(a) True (b) False

13.10 In an example $40+^{0.08}_{-0.02}$ tolerance is 0.05mm

(a) True (b) False

13.11 Enveloping surface is male part-
(a) True (b) False

13.12 Enveloped surface is female part-
(a) True (b) False

13.13 The relation between the two parts where one is inserted into the other with a certain degree of tightness or looseness is known as a fit-
(a) True (b) False

13.14 When shaft is smaller than hole, the allowance is negative-
(a) True (b) False

13.15 In a clearance fit, there is a positive allowance between the largest possible shaft and the smallest possible hole-
(a) True (b) False

13.16 In an interference fit there is a positive allowance between the largest possible shaft and smallest possible hole-
(a) True (b) False

13.17 Transition fit does not guarantee either an interference or a clearance-
(a) True (b) False

Question	Answer	Question	Answer	Question	Answer	Question	Answer
13.01	a	13.06	b	13.10	a	13.14	b
13.02	a	13.07	a	13.11	a	13.15	
13.03	b	13.08	a	13.12	a	13.16	a
13.04	a	13.09	b	13.13	a	13.17	a
13.05	a						

Objective:

14.01 The first useful from of lathe was made by H. Moudslay in the year……..
(a) 1700 (b) 1800. (c) 1900 (d) None

14.02 In lathe machine operation the work piece-

(a) Revolves .(b) Reciprocates

14.03 The bed provides inverted guide ways for controlled movement of……..-
(a) Carriage .(b) Tool post

14.04 The mechanism for driving and altering spindle speed is housed in……-
(a) Head Stock .(b) Tail stock (c) Carriage

14.05 For supporting the other end of work piece……is used-
(a) Head Stock .(b) Tail stock (c) Carriage

14.06 Cross slide is used to give…….feed to the tool-
(a) Longitudinal (b) Transverse

14.07 Graduated Circle base is carried by -
(a) Saddle (b) Cross slide (c) Compound rest

14.08 In facing operation tool is fed ……to the axis of rotation of the job-
(a) Perpendicular (b) Parallel

14.09 In straight turning is the lathe operation in which tool is fed…….to the lathe axis-
(a) Parallel (b) Perpendicular

14.10 In thread cutting longitudinal tool feed should be …….the pitch of the thread to be cuter re revolution of the work piece.
(a) Equal to (b) Less than (c) Greater than

14.11 Embossing a diamond shaped pattern on the surface of a work piece is the process of...-
(a) Turning (b) Chamfering (c) Knurling (c) Milling

Question	Answer	Question	Answer	Question	Answer	Question	Answer
14.01	b	14.04	a	14.07	c	14.10	a
14.02	a	14.05	b	14.08	a	14.11	c
14.03	a	14.06	b	14.09	a		

Objective:

15.01 Hole is generated in the process……
(a) Reaming (b) Tapping. (c) Drilling (d) None

15.02 In drill machine driving mechanisms are contained in…….-
(a) Head (b) Table (c) Column

15.03 The expression for Dia of Hole, D in terms of T (Dia of Tap and d (depth of Thread is..-
(a) T-d (b) T+2d (c) T-2d (d) T/2d

15.04 …… is a process used for enlarging /furnishing the hole previously drilled to give an accuracy of dimension-
(a) Reaming (b) Tapping (c) Milling (d) None

15.05 The materials used for making drill-bit is…….-

(a) HSS (b) MS (c) Cast Iron

15.06 …….machine is used to bore holes in large and heavy parts-
(a) Drilling (b) Lathe (c) Boring

15.07 Vertical turret lathe is a type of vertical…….machine-
(a) Lathe (b) Drilling (c) Boring

15.08 In a horizontal boring machine, the…….permit the work to be moved longitudinally on the bed-
(a) Head Stock (b) Saddle (c) Boring bar

15.09 The diameter of spindle 355mm is generally used in-
(a) Horizontal boring machine (b) Portable drilling machine
(c) Multiple spindle drilling machine

15.10 In provision boring machine the tool tips are made with……..
(a) Cemented carbide (b) Dismount tipped (c) Both (a) & (b) (d) None

15.11 In horizontal boring machine the tool revolves in a ……axis...-
(a) Horizontal (b) Vertical

15.12 The ..supports the cutter for boring operations-
(a) Head Stock (b) Boring bar (c) Saddle

Question	Answer	Question	Answer	Question	Answer	Question	Answer
15.01	c	15.04	a	15.07	c	15.10	c
15.02	a	15.05	a	15.08	b	15.11	a
15.03	c	15.06	c	15.09	a	15.12	b

Objective:

16.01 Ram is a component of……..
(a) Shaper (b) Drilling machine (c) Boring Machine

16.02 In a shaper material cutting takes place in……..stroke-
(a) Forward (b) Reverse

16.03 In a shaper the forward to return stroke time ratio is-
(a) 3:1 (b) 3:2 (c) 2:1

16.04 Shaper tool for hard materials is……..-
(a) of HSS (b) Carbide tipped

16.05 In a shaper …….reciprocates-
(a) Tool (b) Job

16.06 In a planer tools are held vertically in the tool head mounted on cross-rail-
(a) True (b) False

16.07 In a planer ……reciprocates-

(a) Tool (b) Job

16.08 In a shaper feed is given by the lateral movement of the……-
(a) Tool (b) Job

16.09 More than one tool may be mounted in a…….-
(a) Shaper (b) Planner

16.10 For generating flap surfaces on heavy parts……..is most-
(a) Shaper (b) Planner

Question	Answer	Question	Answer	Question	Answer	Question	Answer
16.01	a	16.04	b	16.07	b	16.10	b
16.02	a	16.05	a	16.08	a		
16.03	b	16.06	a	16.09	b		

Objective:

17.01 In a slotter the ram holding the tool reciprocates in a…….
(a) Horizontal axis (b) Vertical axis

17.02 In a vertical shaper the ram can be swiveled not more than……..to the vertical-
(a) 2^0 (b) 5^0 (c) 90^0

17.03 Removal of large amount of metal takes place in……..-
(a) Puncher slotter (b) Precision slotter

17.04 The stroke length of ram of a general purpose or precision slotter usually ranges from 80 to 900mm. -
(a) True (b) False

17.05 In a slotter tool, cutting pressure acts perpendicular to the tool length-
(a) True (b) False

17.06 In a slotter tool, no side rake is given-
(a) True (b) False

17.07 Grinding is used to remove comparatively little material 0.25mm to 0.5mm.-
(a) True (b) False

17.08 Silicon carbide (SiC) is a ……..Abrasives.-

(a) Natural (b) Artificial

17.09 Vitrified bond is denoted by the letter 'V'-
(a) True (b) False

17.10 Grit (Grain size denoted by 80 is…….-
(a) Coarse (b) Medium (b) Fine (b) Very fine

17.11 Hardness if bond denoted by letter Q represents……..grade-
(a) Soft (b) Medium (b) Hard

17.12 Structure denoted by a digit less than equal to 8 represents……..structure.-
(a) Open (b) Dense

17.13 A grinding wheel is marked as WA 46K 5V17. The letter 'A' represents Abrasive type Al_20_3.-
(a) True (b) False

Question	Answer	Question	Answer	Question	Answer	Question	Answer
17.01	b	17.04	a	17.08	b	17.12	a
17.02	b	17.05	b	17.09	a	17.13	a
17.03	a	17.06	a	17.10	c		
17.04	a	17.07	a	17.11	c		

Objective:

18.01 Multiple tooth cutter is used in-
(a) Lathe (b) Slotter (c) Milling Machine

18.02 Knee is a component of a ……..-
(a) Lathe (b) Slotter (c) Milling Machine

18.03 Arbor is a component of a column and knee type milling machine-
(a) True (b) False

18.04 The most common and accurate method of Gear manufacturing is-
(a) Casting (b) Stamping (c) Machining

18.05 The end mills are used to cut gears of large modules from 20mm and larger.-
(a) True (b) False

18.06 The …….involves the production of all the teeth on a gear simultaneously by a ring of formed blades--
(a) Shear speed process (b) Template process (c) Generating process

18.07 The template method is employed for producing ……spur gear teeth..-
(a) Very large (b) Small

18.08 ……..Gears cannot be produced by generating method-
(a) Spur (b) Cycloidal

18.09 In formed cutter method accuracy is……..-
(a) Very poor (b) Very fine

18.10 Mathematically correct tooth profile of gears produced in……..methods.-
(a) Generating (b) Template (b) Formed cutter

Question	Answer	Question	Answer	Question	Answer	Question	Answer
18.01	c	18.04	c	18.07	a	18.10	a
18.02	c	18.05	a	18.08	b		
18.03	a	18.06	a	18.09	a		

Objective:

19.01 In press, metal is formed to the desired shape without removal of chips-
(a) True (b) False

19.02 A punch is usually the……member of the press tool which is mounted on the lower end of the ram-
(a) Upper (b) Lower

19.03 A die has an opening or cavity to receive the punch-
(a) True (b) False

19.04 Punches and dies are generally made of--
(a) HSS (b) High Carbon (c) Steel (HCS)

19.05 In the case of punching, a……hole is produced.-
(a) Cylindrical (b) Other than cylindrical

19.06 In……the metal is stressed in both tension and compression at the two sides of the neutral axis--
(a) Shearing (b) Bending

19.07 In a compound die two or more cutting operation are accomplished at one station of a press in every stroke of the ram...-
(a) True (b) False

19.08 A fixture is a device which guides the cutting tools-
(a) True (b) False

19.09 Jigs are generally heavier than fixtures.
(a) True (b) False

19.10 The use of jigs and fixtures requires marking outs measuring and other setting methods before machining-
(a) True (b) False

Question	Answer	Question	Answer	Question	Answer	Question	Answer
19.01	a	19.04	a	19.07	a	19.10	b
19.02	a	19.05	a	19.08	b		
19.03	a	19.06	b	19.09	b		

Objective:

20.01 Contoured surfaces cannot be produced by broaching-
(a) True (b) False

20.02 A broach is a multiple edge cutting tools-
(a) True (b) False

20.03 Broaching is possible only on internal surfaces-
(a) True (b) False

20.04 ……..broaches are used extensively in the broaching of cast iron-
(a) Tungsten (b) Carbide

20.05 Nearly all horizontal broaching machines are……..type-
(a) Pull (b) Push

20.06 In a broaching machine specification 1000-10, stroke length is-
(a) 1000mm (b) 1000x10mm (c) 10m

20.07 In sawing, feed may be given at……-
(a) Only saw (b) The work (c) Earthier saw or work

20.08 Saws are represented by power hacksaws-
(a) Reciprocating (b) Circular

20.09 The three tooth sets are……..
(a) Raker, alternate, wavy (b) Standard, skip and hook

20.10 The three tooth forms are…….-
(a) Raker, alternate, wavy (b) Standard, skip and hook

Question	Answer	Question	Answer	Question	Answer	Question	Answer
20.01	b	20.04	b	20.07	c	20.10	
20.02	a	20.05	a	20.08			
20.03	b	20.06	a	20.09	a		

Objective:

21.01 M/s Plasser (India) Pvt. Ltd. Is situated at…….-
(a) Faridabad (b) Gurgaon (c) Noida (d) Delhi

21.02 M/s Plasser (India) Pvt. Ltd. is produces only tamping machines---
(a) True (b) False

21.03 M/s Plasser (India) Pvt. Ltd. has manufacturing lines (Track)-
(a) 2 (b) 3 (c) 5

21.04 There is no separate machine-shop at M/s Plasser (India) Pvt.Ltd.-
(a) True (b) False

21.05 Radial drill machine is available at M/s Plasser (India) Pvt. Ltd. Machine shop.-
(a) True (b) False

21.06 Cropping machine is used to cut…….-
(a) Hoses (b) Metal Sheets (c) Rubber sheets

21.07 MIG welding uses……electrodes-
(a) Consumable (b) Non-consumable

21.08 Hose fittings are fitted on……..machine-
(a) Cropping (b) Crimping (c) Press

21.09 CNC lathe is available at M/s Plasser (India) Pvt. Ltd.
(a) True (b) False

Question	Answer	Question	Answer	Question	Answer
21.01	a	21.04	b	21.07	a
21.02	b	21.05	a	21.08	b
21.03	a	21.06	b	21.09	a

Objective:

24.01 Thread is nothing but a helical grove-
(a) True (b) False

24.02 In India …….hand threads are mostly used-
(a) Left (b) Right

24.03 Pitch Dia = (Major Dia) – (……)
(a) Single Depth of Thread (b) Double Depth of Thread

24.04 In case of single start thread,.-
(a) Pitch = lead (b) Pitch < Lead (c) Pitch > Lead

24.05 The angle of inclination of thread is called……...-
(a) Angle of Thread (b) Helix Angle

24.06 Included angle of BSW Thread is 55^0 and routes and crest are…….-
(a) Rounded (b) Angular (c) Parallel

24.07 British Standard fine thread have….effective and core diameters than the BSW threads-
(a) Larger (b) Smaller

24.08 American National Thread has an included angle of 600 and crests and routes of this thread are……..-
(a) Rounded (b) Parallel

24.09 International Standard Thread (Unified Thread) have roots..
(a) Rounded (b) Parallel to axis

24.10 In the Metric thread designation M10 x 1.5 the term 10 indicates
(a) Nominal dia in mm (b) Threads per cm

24.11 The depth and thickness of the square thread are each equal to half of the pitch
(a) True (b) False

24.12 Acme thread is thicker at the root and less thick at the crest-
(a) True (b) False

24.13 Lead Screw of the lathe are provided with……thread-
(a) Acme (b) Square (b) V-

24.14 Coupler of railway carriage and electrical bulbs use …..thread-
(a) V- (b) Knuckle (b) Buttress

24.15 Buttress thread is suitable only when the force acts entirely in one direction-
(a) True (b) False

Question	Answer	Question	Answer	Question	Answer	Question	Answer
24.01	a	24.05	b	24.09	a	24.13	a
24.02	b	24.06	a	24.10	a	24.14	b
24.03	a	24.07	a	24.11	a	24.15	a
24.04	a	24.08	b	24.12	a		

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Objective:

25.01 Inspection is tool of quality control-
(a) True (b) False

25.02 In charts for X and R, the term X represents-
(a) Average (b) Range (c) Fraction defective

25.03 Control charts for attributes is called……..
(a) p charts (b) c chart

25.04 In c chart, there are 200 defects in 25 machines then LCLc.-
(a) 8 (b) 16.5 (c) 0 (d) 200

25.05 In c chart, there are 200 defects in 25 machines then LCLs =……-
(a) 8 (b) 16.5 (c) 0 (d) 200

25.06 In c chart, there are 200 defects in 25 machines then LCLs =……-
(a) 8 (b) 16.5 (c) 0 (d) 200

25.07 ISO 9002, ISO 9002, ISO 9003 detail the…….-
(a) Requirements (b) Guidelines

25.08 ……..Quality system is the model for quality assurance in final inspection and test-
(a) ISO 9001 (b) ISO 9002 (c) ISO 9003

25.09 ISO……..is a family of international standards for quality management and assurance-
(a) 9000 (b) 9004

25.10 In its most basic form the ISO 9000 requires that you: Say what you do, Do what you say record what you do-
(a) True (b) False

Question	Answer	Question	Answer	Question	Answer
25.01	a	25.05	b	25.09	a
25.02	a	25.06	c	25.10	a
25.03	a	25.07	a		
25.04	b	25.08	c		