

TSPSC CBRT AMVI Shift 2 8th Nov 2015

Roll No:	
Participants Name:	
Test Date:	
Test Time:	
Subject:	

Q.1 Petrol engine works on

- Ans
- 1. Carnot cycle
 - 2. Joules cycle
 - 3. Diesel cycle
 - 4. Otto cycle

Question ID : 3304
Chosen Option : 4

Q.2 Fleet utilization will show efficiency of

- Ans
- 1. Engineering department
 - 2. Traffic department
 - 3. Security wing
 - 4. Administration

Question ID : 3392
Chosen Option : 1

Q.3 In order to perform taper turning operation of entire length l , with two end diameters d_1 and d_2 , the tail stock set over required is

- Ans
- 1. $\frac{d_1 - d_2}{2l}$
 - 2. $\frac{d_1 - d_2}{l}$
 - 3. $\frac{(d_1 - d_2)2}{l}$
 - 4. $\frac{d_1 - d_2}{2}$

Question ID : 3444
Chosen Option : 3

Q.4 In cutout, the current coil is

- Ans
- 1. Shunt wound and made of thin wire
 - 2. Series wound and made of thin wire
 - 3. Shunt wound and made of thick wire
 - 4. Series wound and made of thick wire

Question ID : 3366
Chosen Option : 2

Q.5 Duty Roaster is related to

- Ans
- 1. Bus frequency
 - 2. Bus schedule
 - 3. Bus timings
 - 4. Crew Duties

Question ID : 3376
Chosen Option : 2

Q.6 Which motor can be used as a self starter?

- Ans
- 1. DC compound motor
 - 2. DC series motor
 - 3. Any AC motor
 - 4. DC shunt motor

Question ID : 3364
Chosen Option : 1

Q.7 The service that is operated when a vehicle breakdown enroute

- Ans 1. Relief service
 2. Express service
 3. Ordinary service
 4. Luxury service

Question ID : 3383
Chosen Option : 1

Q.8 The centre of gravity of a T-section 100 mm x 150 mm x 30 mm

- Ans 1. 50 mm
 2. 75.6 mm
 3. 94.1 mm
 4. 120 mm

Question ID : 3417
Chosen Option : 2

Q.9 Eutectoid steel contains following percentage of carbon

- Ans 1. 0.3%
 2. 0.63%
 3. 0.8%
 4. 0.02%

Question ID : 3439
Chosen Option : 2

Q.10 Poisson's ratio for cast iron is

- Ans 1. 0.27
 2. 0.15
 3. 0.36
 4. 0.33

Question ID : 3416
Chosen Option : 3

Q.11 A body of weight W is required to move up on rough inclined plane whose angle of inclination with the horizontal is θ . The effort applied parallel to the plane is given by

- Ans 1. $P = W (\cos \theta + \mu \sin \theta)$
 2. $P = W \tan \theta$
 3. $P = W (\sin \theta + \mu \cos \theta)$
 4. $P = W \tan (\theta + \phi)$

Question ID : 3421
Chosen Option : 3

Q.12 If resistors of 10 Ohms, 20 Ohms are connected in parallel-mesh then the equivalent resistance is

- Ans 1. 50/3 Ohms
 2. 20/3 Ohms
 3. 35/3 Ohms
 4. 30 Ohms

Question ID : 3359
Chosen Option : 2

Q.13 A fully charged battery has specific gravity of electrolyte

- Ans 1. 1.820
 2. 1.50
 3. 1.280
 4. 2.50

Question ID : 3351
Chosen Option : 3

Q.14 Ignition timing mark is provided on

- Ans 1. Cam shaft
 2. Fly wheel
 3. Pressure plate
 4. Crank shaft

Question ID : 3362
Chosen Option : 1

Q.15 A car with a closed body and with less than 4 seats is called

Question ID : 3330

Ans 1. Saloon
 2. Limousine
 3. Coupe
 4. Station wagon

Chosen Option : 3

Q.16 The dynamic viscosity of most gases with rise in gas temperature

Ans 1. Decreases
 2. Doesnot change significantly
 3. Increases
 4. Decreases as ? T

Question ID : 3409
Chosen Option : 4

Q.17 An ideal fluid is

Ans 1. One which obeys Newton's law of viscosity
 2. Frictionless and incompressible
 3. One which satisfies continuity equation
 4. similar to perfect gas

Question ID : 3402
Chosen Option : 2

Q.18 The point of inflexion is a point where

Ans 1. shear force changes sign
 2. bending moment changes sign
 3. bending moment is maximum
 4. shear force is maximum

Question ID : 3419
Chosen Option : 2

Q.19 The pitman arm in the steering gear is linked to the front wheel through the

Ans 1. Drag link
 2. Track rod
 3. Tie rod
 4. Steering knuckle

Question ID : 3341
Chosen Option : 2

Q.20 Toggle lever is used in

Ans 1. Air brakes
 2. Mechanical brakes
 3. Electric brakes
 4. Hydraulic brakes

Question ID : 3345
Chosen Option : 2

Q.21 Case hardening is the only method suitable for hardening

Ans 1. High alloy steel
 2. High speed steel
 3. High carbon steel
 4. Low carbon steel

Question ID : 3441
Chosen Option : 3

Q.22 Clutch is not transmitting any power from the engine to the gear box. The problem is called

Ans 1. Clutch chattering
 2. Clutch dragging
 3. Clutch grabbing
 4. Clutch slipping

Question ID : 3348
Chosen Option : 3

Q.23 Graphical method, Simplex method and Transportation methods are concerned with

Ans 1. Linear programming
 2. Queing theory

Question ID : 3388
Chosen Option : 1

- 3. Value analysis
- 4. Break-even analysis

Q.24 The friction that occurs between the layers of oil is called

- Ans
- 1. Boundary friction
 - 2. Greasy friction
 - 3. Viscous friction
 - 4. Solid friction

Question ID : 3307
Chosen Option : 3

Q.25 The instrument used to note the deflection of the frame in bending test is

- Ans
- 1. Vernier Caliper
 - 2. Screw gauge
 - 3. Dial gauge
 - 4. Depth gauge

Question ID : 3331
Chosen Option : 3

Q.26 The main purpose of double reduction in final drive is to

- Ans
- 1. reduce the size of the road wheel
 - 2. avoid the use of differential cage
 - 3. decrease the size of crown wheel
 - 4. reduce the size of the drive pinion

Question ID : 3347
Chosen Option : 3

Q.27 The function of a governor in an automobile is to

- Ans
- 1. Effect maximum fuel economy
 - 2. Limit the speed of the engine
 - 3. Maintain constant engine speed
 - 4. Limit the power

Question ID : 3303
Chosen Option : 3

Q.28 Two forces of 6N and 8N act at right angles to each other, the resultant force will be

- Ans
- 1. 10 N
 - 2. 48 N
 - 3. 24 N
 - 4. 14 N

Question ID : 3414
Chosen Option : 3

Q.29 A 14mm spark plug has

- Ans
- 1. A reach of 14 mm
 - 2. Threaded length of 14 mm
 - 3. Threaded diameter of 14 mm
 - 4. Heat path of 14 mm

Question ID : 3352
Chosen Option : 3

Q.30 In a 4-stroke 6-cylinder I C engine, the power impulse occurs after 'x' degrees of Crank rotation, where 'x' is

- Ans
- 1. 120°
 - 2. 180°
 - 3. 90°
 - 4. 240°

Question ID : 3317
Chosen Option : 2

Q.31 The motion of shaft in a circular hole is an example of

- Ans
- 1. completely constrained motion

Question ID : 3411
Chosen Option : 4

- 2. Simple harmonic motion
- 3. Successfully constrained motion
- 4. Incompletely constrained motion

Q.32 Coil springs are

- Ans
- 1. good in both shear load and side thrust
 - 2. good in shear load and weak in bending loads
 - 3. good in shear load and weak in side thrust
 - 4. good in side thrust and weak in bending loads

Question ID : 3344
Chosen Option : 1

Q.33 ABC analysis in material management deals with

- Ans
- 1. analysis of process chart
 - 2. controlling inventory costs
 - 3. flow of material
 - 4. ordering schedule of job

Question ID : 3397
Chosen Option : 1

Q.34 In radial Cams the follower moves

- Ans
- 1. in any direction irrespective of a Cam axis
 - 2. in a direction parallel to the Cam axis
 - 3. in a direction perpendicular to the Cam axis
 - 4. along the Cam axis

Question ID : 3431
Chosen Option : 3

Q.35 Break-even analysis consists of

- Ans
- 1. Fixed costs and Variable costs
 - 2. Operation costs
 - 3. Fixed costs
 - 4. Variable costs

Question ID : 3378
Chosen Option : 1

Q.36 The part of the piston where gudgeon pin is fixed is called as

- Ans
- 1. piston boss
 - 2. skirt
 - 3. land
 - 4. ring groove

Question ID : 3325
Chosen Option : 1

Q.37 The main reason for CO emission is due to

- Ans
- 1. Less amount of air in the air fuel mixture
 - 2. High amount of hydrogen in the air fuel mixture
 - 3. Less amount of hydrogen in the air fuel mixture
 - 4. High amount of air in the air fuel mixture

Question ID : 3372
Chosen Option : 2

Q.38 A square engine

- Ans
- 1. has 4 cylinders
 - 2. has cylinders arranged in square shape
 - 3. has cylinder bore equal to stroke length
 - 4. has 2 cylinders horizontal and 2 cylinders vertical

Question ID : 3306
Chosen Option : 3

Q.39 The moment of inertia for a rectangular section 3 cm wide 4 cm deep about x-x axis is

- Ans
- 1. 16 cm^4
 - 2. 9 cm^4
 - 3. 12 cm^4

Question ID : 3424
Chosen Option : 2

4. 20 cm⁴

Q.40 The hoist comprises a platform, which is fixed on the top of ram working on

- Ans 1. Hydraulic cylinder
 2. Pneumatic cylinder
 3. Master cylinder
 4. Oil cylinder

Question ID : 3365
Chosen Option : 2

Q.41 NO_x are generated when the temperature in combustion - chamber rises above

- Ans 1. 1500° C
 2. 1600° C
 3. 1700° C
 4. 1800° C

Question ID : 3322
Chosen Option : 1

Q.42 Lean air-fuel mixture is required for

- Ans 1. Acceleration
 2. Starting
 3. Idling
 4. Cruising

Question ID : 3309
Chosen Option : 3

Q.43 The warpage of cylinder head is checked with a

- Ans 1. micro meter
 2. vernier caliper
 3. metal rule
 4. dial gauge

Question ID : 3374
Chosen Option : 3

Q.44 The bending moment in the centre of a simply supported beam carrying uniformly distributed load of W per unit length is

- Ans 1. $\frac{wl^2}{4}$
 2. $\frac{wl^2}{2}$
 3. Zero
 4. $\frac{wl^2}{8}$

Question ID : 3425
Chosen Option : 3

Q.45 The method of governing used in petrol engines is

- Ans 1. combined governing
 2. quantitative governing
 3. qualitative governing
 4. hit and miss governing

Question ID : 3311
Chosen Option : 2

Q.46 Mechanical differential lock is operated by

- Ans 1. Electrical system
 2. Automatic system
 3. Manual system

Question ID : 3407
Chosen Option : 2

4. Servo system

Q.47 The fins at the top of a motor cycle engine cylinder are longer than those at the bottom because

Question ID : 3319

Chosen Option : 1

Ans 1. Top is the hottest part

2. they are in an unexposed position

3. hot air rises

4. Extra strength is needed at the top

Q.48 The outside diameter of a hollow shaft is twice its inside diameter. The ratio of the torque carrying capacity to that of a solid shaft of the same material and of the same outside diameter is

Question ID : 3433

Chosen Option : 1

Ans 1. 15/16

2. 1/2

3. 3/4

4. 11/16

Q.49 The power available at the Crankshaft for useful work is

Question ID : 3305

Chosen Option : 4

Ans 1. Total power

2. Friction power

3. Brake power

4. Indicated power

Q.50 In a horn circuit, when the contact points are closed, the current flows through

Question ID : 3356

Chosen Option : 3

Ans 1. low current wire

2. low voltage coil

3. high voltage coil

4. high current wire

Q.51 A portable drilling machine is specified by

Question ID : 3438

Chosen Option : 3

Ans 1. Spindle speeds and feeds

2. Size of the table

3. Maximum diameter of drill it can hold

4. Maximum spindle travel

Q.52 The ratio of useful power; friction power; exhaust gas losses; cooling water, air and oil losses for a diesel engine is of the order of

Question ID : 3313

Chosen Option : 2

Ans 1. 25 : 5 : 10 : 60

2. 25 : 5 : 35 : 35

3. 25 : 35 : 5 : 35

4. 5 : 25 : 30 : 50

Q.53 A key connecting a flange coupling to a shaft is likely to fail in

Question ID : 3429

Chosen Option : 2

Ans 1. Shear

2. Torsion

3. Bending

4. Tension

Q.54 Four strokes of an IC engine need ___ degrees of Crank rotation

Question ID : 3301

Chosen Option : 2

Ans 1. 540°

2. 360°

3. 180°

✓ 4. 720°

Q.55 Apart from hydrocarbons, the main pollutants in the engine exhaust are

- Ans
- ✓ 1. CO and NO_x
 - ✗ 2. CO₂ and H₂O
 - ✗ 3. CO₂ and NO_x
 - ✗ 4. CO and CO₂

Question ID : 3371
Chosen Option : 1

Q.56 PERT stands for

- Ans
- ✓ 1. Programme Evaluation and Review Technique
 - ✗ 2. Project Evaluation and Reporting Technique
 - ✗ 3. Programme Examination and Review Technique
 - ✗ 4. Process Evaluation and Reporting Technique

Question ID : 3380
Chosen Option : 1

Q.57 When the no. 1 piston of a 6-cylinder in-line engine is performing suction stroke, the no.6 piston will be performing

- Ans
- ✗ 1. suction stroke
 - ✗ 2. compression stroke
 - ✗ 3. exhaust stroke
 - ✓ 4. power stroke

Question ID : 3320
Chosen Option : 3

Q.58 The Motor Vehicle Act in India was introduced in the year

- Ans
- ✗ 1. 1935
 - ✗ 2. 1949
 - ✗ 3. 1936
 - ✓ 4. 1939

Question ID : 3384
Chosen Option : 2

Q.59 The cutting tool in a milling machine is mounted on

- Ans
- ✗ 1. Column
 - ✗ 2. Tool holder
 - ✗ 3. Spindle
 - ✓ 4. Arbor

Question ID : 3450
Chosen Option : 2

Q.60 Frequency of a service can be calculated by

- Ans
- ✓ 1. $\frac{RT + ST}{N}$
 - ✗ 2. $\frac{RT + N}{ST}$
 - ✗ 3. $\frac{RT}{N + ST}$
 - ✗ 4. $\frac{RT - ST}{N}$

Question ID : 3382
Chosen Option : 1

Q.61 The ratio of static friction to dynamic friction is always

- Ans
- ✓ 1. greater than one
 - ✗ 2. equal to one
 - ✗ 3. less than one
 - ✗ 4. half

Question ID : 3415
Chosen Option : 2

Q.62 In straight polarity welding

- Ans
- 1. Holder is positive and work is earthed
 - 2. Electrode holder is connected to the positive and work to negative
 - 3. Work is positive and holder is earthed
 - 4. Electrode holder is connected to the negative and work to positive

Question ID : 3440

Chosen Option : 2

Q.63 Eye bolts are used for

- Ans
- 1. Absorption of shocks and vibrations
 - 2. Lifting and transporting heavy pieces
 - 3. Transmission of power
 - 4. Locking devices

Question ID : 3426

Chosen Option : 4

Q.64 CPM has following time estimates

- Ans
- 1. Three time estimates
 - 2. One time estimate
 - 3. Four time estimates
 - 4. Two time estimates

Question ID : 3390

Chosen Option : 3

Q.65 In the case of a fly wheel the maximum fluctuation of energy is the

- Ans
- 1. Ratio of maximum and minimum energies
 - 2. Sum of maximum and minimum energies
 - 3. Ratio of minimum and maximum energies
 - 4. Difference between the maximum and minimum energies

Question ID : 3427

Chosen Option : 1

Q.66 The process in which hydrocarbons are decomposed into smaller hydrocarbons is called

- Ans
- 1. Reforming
 - 2. Evaporation
 - 3. Cracking
 - 4. Isomerisation

Question ID : 3310

Chosen Option : 2

Q.67 The electronic ignition system has a module kit that improves

- Ans
- 1. The coil performance
 - 2. The battery performance
 - 3. The C.B. Points performance
 - 4. The condenser performance

Question ID : 3370

Chosen Option : 1

Q.68 The increase in hardness due to cold working is called

- Ans
- 1. Age hardening
 - 2. Induction hardening
 - 3. Work hardening
 - 4. Flame hardening

Question ID : 3445

Chosen Option : 2

Q.69 Normal heptane

- Ans
- 1. accelerates auto ignition
 - 2. helps to resist auto ignition
 - 3. does not effect auto ignition
 - 4. retards auto ignition

Question ID : 3314

Chosen Option : 1

Q.70 In a torque tube drive, the torque tube takes

Question ID : 3339

- Ans 1. Torque reaction and driving thrust
 2. Side thrust and torque reaction
 3. Side thrust and vehicle weight
 4. Vehicle weight and torque reaction

Chosen Option : 3

Q.71 The cylinder bore oversize for reboring is calculated on the basis of

- Ans 1. maximum ovality in any cylinder
 2. average value of ovality in the cylinder
 3. minimum ovality in any cylinder
 4. size of the piston available

Question ID : 3375
Chosen Option : 2

Q.72 The disadvantage of alternator is

- Ans 1. High initial cost
 2. Maximum output is less
 3. Poor current output characteristics
 4. Output to weight ratio is less

Question ID : 3353
Chosen Option : 3

Q.73 When compared to leaf springs, the energy stored in a torsion bar is

- Ans 1. four times
 2. half
 3. double
 4. equal

Question ID : 3335
Chosen Option : 3

Q.74 A dealer sells a set of tools for Rs.900 which is 80% more than he paid for it. At what price must he sell the same set to make 120% on the cost?

- Ans 1. Rs.1000
 2. Rs.1200
 3. Rs.1100
 4. Rs.900

Question ID : 3400
Chosen Option : 4

Q.75 Large speed reduction (greater than 20) in one stage of a gear train are possible through

- Ans 1. Bevel gearing
 2. Worm gearing
 3. Spur gearing
 4. Helical gearing

Question ID : 3434
Chosen Option : 2

Q.76 In a planer

- Ans 1. Tool moves over reciprocating work
 2. Tool moves over stationary work
 3. Work is stationary and tool reciprocates
 4. Tool is stationary and work reciprocates

Question ID : 3449
Chosen Option : 1

Q.77 Which of the following is correct relation for finding mean effective pressure if Area of indicator diagram (A), Spring Constant (K) and Length of indicator diagram (L)

- Ans 1. $\frac{K}{A} \times l$
 2. $\frac{K}{lA}$
 3. $\frac{A}{l} \times K$

Question ID : 3312
Chosen Option : 3

~~X~~ 4. $\frac{A}{K}xl$

Q.78 The number of valves provided in the telescopic shock absorber is

- Ans ~~X~~ 1. Four
~~X~~ 2. One
✓ 3. Two
~~X~~ 4. Three

Question ID : 3329
Chosen Option : 3

Q.79 Mass density of liquid is given by

- Ans $\frac{volume}{mass}$
~~X~~ 1. $\frac{volume}{mass}$
~~X~~ 2. specific gravity/mass
~~X~~ 3. mass x volume
✓ 4. $\frac{mass}{volume}$

Question ID : 3405
Chosen Option : 4

Q.80 Moment of inertia of a rectangular section having width (b) and depth (d) about an axis passing through its C.G and parallel to depth (d) is

- Ans $\frac{db^3}{24}$
~~X~~ 1. $\frac{db^3}{24}$
 $\frac{bd^3}{36}$
~~X~~ 2. $\frac{bd^3}{36}$
 $\frac{bd^3}{12}$
~~X~~ 3. $\frac{bd^3}{12}$
✓ 4. $\frac{db^3}{12}$

Question ID : 3413
Chosen Option : 3

Q.81 Condenser is provided to

- Ans ✓ 1. prevent arcing between the C.B. point
~~X~~ 2. allow the arcing between the spark plug electrodes
~~X~~ 3. allow arcing between the C.B. Point
~~X~~ 4. prevent sudden arcing between spark plug electrodes

Question ID : 3367
Chosen Option : 4

Q.82 Which of the following are correct pair pistons for a 6-cylinder in-line engine

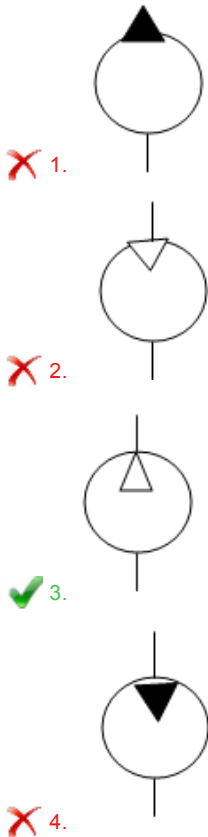
- Ans ~~X~~ 1. 1-5, 4-6, 2-3
~~X~~ 2. 1-4, 2-6, 3-5
✓ 3. 1-6, 2-5, 3-4
~~X~~ 4. 1-2, 3-4, 5-6

Question ID : 3318
Chosen Option : 2

Q.83 Which of the following symbols is used to represent air compressor in a pneumatic circuit

Question ID : 3410
Chosen Option : 1

Ans



Q.84 The time which results in the least possible direct cost of an activity is known as

- Ans
- 1. Normal time
 - 2. Slow time
 - 3. Standard time
 - 4. Crash time

Question ID : 3386

Chosen Option : 3

Q.85 The depth of soil cut can be set by

- Ans
- 1. depth wheel
 - 2. Drag link
 - 3. straight handle
 - 4. depth locator

Question ID : 3404

Chosen Option : 3

Q.86 In a tubeless tyre

- Ans
- 1. a non-return valve is fitted to the bottom of tyre
 - 2. It takes more time for repairing
 - 3. a repaired and replaced tyre gives a good air tight joint
 - 4. air leakage is slow when tyre is punctured by a nail as long as it remains in the tyre

Question ID : 3338

Chosen Option : 4

Q.87 Gear hobbing process is faster than milling because

- Ans
- 1. Indexing time is less
 - 2. Several teeth cut at a time
 - 3. Hob rotates faster
 - 4. Work rotates faster

Question ID : 3443

Chosen Option : 2

Q.88 The optimum electrode temperature of sparkplug is

- Ans
- 1. 300 to 500 ° C
 - 2. 800 to 1000 ° C

Question ID : 3357

Chosen Option : 2

3. 500 to 600 ° C

4. 600 to 800 ° C

Q.89 The difference between a machine and a structure is

Ans 1. The machine serves to modify and transmit forces only where as structures serve to modify and transmit mechanical work.

2. The machine serves to modify and transmit mechanical work w here as structure serve to modify and transmit forces only

3. The relative motion exists between the parts structure where a s it doesnot exist in machine

4. Structures are temporary constructions where as machines are permanent construction

Question ID : 3422

Chosen Option : 2

Q.90 The chassis where the engine is mounted completely inside the driv er's cabin

Ans 1. Integral type chassis

2. Conventional chassis

3. Semi-forward chassis

4. Fully forward chassis

Question ID : 3337

Chosen Option : 1

Q.91 Braking efficiency is generally kept at

Ans 1. 50 to 80%

2. 100%

3. 90 to 100%

4. 30 to 50%

Question ID : 3328

Chosen Option : 1

Q.92 Annealing of white cast iron results in the production of

Ans 1. Malleable cast iron

2. Gray cast iron

3. Spheroidal cast iron

4. Nodular cast iron

Question ID : 3436

Chosen Option : 3

Q.93 The purpose of belt pulley is to

Ans 1. To control differential unit

2. supply hydraulic fluid to steering

3. run the water pumps and threshers

4. run the plough

Question ID : 3408

Chosen Option : 3

Q.94 The maximum number of spells of duty for Crew in a day is

Ans 1. 2

2. 5

3. 4

4. 3

Question ID : 3391

Chosen Option : 1

Q.95 Soot formation is due to the lack of ____ in combustion chamber dur ing fuel burning

Ans 1. Sulphur

2. Nitrogen

3. Hydrogen

4. Oxygen

Question ID : 3373

Chosen Option : 1

Q.96 The stand time at both terminals is given as

Ans 1. 5% of running time

Question ID : 3381

Chosen Option : 2

- 2. 20% of running time
- 3. 10% of running time
- 4. 15% of running time

Q.97 The colour indication of informatory signs

- Ans 1. Blue
- 2. Green
 - 3. Red
 - 4. Black

Question ID : 3394

Chosen Option : 4

Q.98 The produced current in d.c. generator is collected by

- Ans 1. Pole shoe
2. Commutator
- 3. Pole core
 - 4. Armature

Question ID : 3369

Chosen Option : 3

Q.99 Free wheel unit is mounted between

- Ans 1. propeller shaft and rear axle
- 2. clutch and gear box
 - 3. gear box and propeller shaft
 - 4. engine and clutch

Question ID : 3349

Chosen Option : 1

Q.10 The daily maintenance time for a Bus varies from
0

- Ans 1. 4 to 6 hrs
- 2. 4 to 5 hrs
 - 3. 2 to 3 hrs
 - 4. 1 to 2 hrs

Question ID : 3377

Chosen Option : 1

Q.10 Two forces of each equal to $T/2$ act at right angles. Their effect may
1 be neutralized by a third force acting along their bisector in the opposite direction with a magnitude of

- Ans 1. $2T$
- 2. T
 - 3. $T/2$
 - 4. $2T$

Question ID : 3420

Chosen Option : 3

Q.10 Propeller shaft is subjected to
2

- Ans 1. Torsional loads and Vibrations
- 2. Bending loads
 - 3. Torsional loads
 - 4. Both bending and torsional loads

Question ID : 3333

Chosen Option : 1

Q.10 The pitch point of Cam is
3

- Ans 1. any point on the pitch curve
- 2. a point on the pitch curve having minimum pressure angle
 - 3. a point on the pitch curve having maximum pressure angle
 - 4. any point on the pitch circle

Question ID : 3435

Chosen Option : 3

Q.10 In over running clutch ____ is provided to actuate the starter switch of
4 n self starter

- Ans 1. A high tension spring

Question ID : 3358

Chosen Option : 1

2. rubber brush

3. Shift lever

4. Collar

Q.10 A flat belt drive is
5

Ans 1. not a positive drive

2. Used only when the two shafts have parallel axis

3. used for high torque transmission only

4. positive drive

Question ID : 3412

Chosen Option : 2

Q.10 Work cost implies
6

Ans 1. Primary cost + Factory expenses

2. Primary cost

3. Factory cost

4. Factory expenses

Question ID : 3389

Chosen Option : 1

Q.10 The central part of the front axle is provided with
7

Ans 1. downward sweep

2. backward sweep

3. upward sweep

4. forward sweep

Question ID : 3346

Chosen Option : 2

Q.10 Which valve is used in air compressor to regulate pressure in the
8 reservoirs?

Ans 1. Inlet valve

2. Unloader valve

3. Spool valve

4. Check valve

Question ID : 3360

Chosen Option : 2

Q.10 In the hydraulic braking system, the movement of the piston in the
9 heel cylinder is transmitted to the brakeshoe by

Ans 1. Trunnions

2. Cables

3. Springs

4. Actuating pins

Question ID : 3334

Chosen Option : 3

Q.11 Tippers are used for
0

Ans 1. Long hauling jobs

2. Carrying hard rock to long distance

3. Small hauling jobs

4. Carrying garbage

Question ID : 3403

Chosen Option : 2

Q.11 Power output of a diesel engine is controlled by
1

Ans 1. Varying compression ratio

2. Regulating the quantity of air induced

3. Varying the pump timing

4. Regulating the quantity of fuel injected

Question ID : 3323

Chosen Option : 1

Q.11 Correct sequence of Coolant circulation in an I.C. Engine cooling sys
2 tem is

Question ID : 3308

- Ans 1. pump-block-radiator-head
 2. pump-radiator-head-block
 3. pump-head-radiator-block
 4. pump-block-head-radiator

Chosen Option : 1

Q.11 The final drive consists of
3

- Ans 1. rear axle and road wheel
 2. gear box and propeller shaft
 3. bevel pinion and crown wheel
 4. propeller shaft and bevel pinion

Question ID : 3326

Chosen Option : 2

Q.11 A vehicle chassis is designated as 6 x 4, this indicates that
4

- Ans 1. The length of chassis is 6 metres and wheel base is 4 metres
 2. The length of chassis is 6 metres and ground clearance is 4 metres
 3. The total number of wheels is 6 and the driving wheels are 4
 4. The total number of wheels is 6 and the 4 wheels are mounted on front axle

Question ID : 3327

Chosen Option : 2

Q.11 The gear train usually employed in clocks
5

- Ans 1. sun and planet gear
 2. differential gear
 3. simple gear train
 4. reverted gear train

Question ID : 3430

Chosen Option : 1

Q.11 Dressing of grinding wheels to restore sharpness is done by
6

- Ans 1. Solid carbon steel bar
 2. Tool steel dresser
 3. Diamond dresser
 4. Sharped edge H.S.S. cutter

Question ID : 3437

Chosen Option : 1

Q.11 Scheduling gives information about
7

- Ans 1. proper utilisation of machines
 2. how the idle time can be minimised
 3. when work should start and how much work should be completed during a certain period
 4. when work should complete

Question ID : 3387

Chosen Option : 3

Q.11 The thermal efficiency of a 2 - stroke cycle engine as compared to a
8 four stroke cycle engine is

- Ans 1. same
 2. less
 3. more upto certain load and then less
 4. more

Question ID : 3315

Chosen Option : 4

Q.11 The middle finger of Fleming's left hand rule represents
9

- Ans 1. direction of force
 2. direction of current
 3. direction of magnetic field

Question ID : 3368

Chosen Option : 3

4. capacitance

Q.12 Contact breaker point gap should be maintained at
0

- Ans 1. 0.3 to 0.5 mm
 2. 0.2 to 0.3 mm
 3. 0.4 to 0.8 mm
 4. 0.1 to 0.2 mm

Question ID : 3355
Chosen Option : 2

Q.12 Cetane number of a diesel fuel is measure of its
1

- Ans 1. Ignition quality
 2. Delay period
 3. Volatility
 4. Viscosity

Question ID : 3302
Chosen Option : 3

Q.12 Austenite is a combination of
2

- Ans 1. Cementite and gamma iron
 2. Ferrite and cementite
 3. Ferrite and pearlite
 4. Pearlite and cementite

Question ID : 3446
Chosen Option : 2

Q.12 Break-even point can be calculated by using the relation, where F=Total Fixed costs, S=Total Sales Volume, V = Total Variable costs.
3

- Ans 1. $\frac{F}{V}$
 2. $\frac{F}{1-\frac{S}{V}}$
 3. $\frac{F}{F-\frac{S}{V}}$
 4. $\frac{F}{\frac{S}{V}-F}$

Question ID : 3396
Chosen Option : 2

Q.12 A pressure relief valve is fitted to the main oil gallery to
4

- Ans 1. stop oil flow to bearings at low pressure
 2. open when the oil is hot
 3. limit the maximum oil pressure
 4. maintain supply if the gallery is blocked

Question ID : 3321
Chosen Option : 3

Q.12 In steering mechanism a drag link connects
5

- Ans 1. drop arm and steering arm
 2. drop arm and link rod
 3. drop arm and tie rod
 4. drop arm and track rod

Question ID : 3336
Chosen Option : 4

Q.12 Cautionary signs are indicated in
6

- Ans 1. Circle
 2. Triangle
 3. Rectangle
 4. Square

Question ID : 3395
Chosen Option : 2

Q.12 According to Rowan plan, if H=hourly rate, A=actual time and S=stan
7 dard time, then wages will be

- Ans 1. $HA + \frac{(S-A)}{S} HA$
 2. $HA + \frac{(S-A)}{S} H$
 3. HA
 4. $HA + \frac{(S-A)}{2} H$

Question ID : 3393
Chosen Option : 2

Q.12 Steering pulling or wobbling is due to
8

- Ans 1. Worn out piston
 2. Worn out cylinder
 3. Loosened clutch cable
 4. Less tyre pressure

Question ID : 3361
Chosen Option : 2

Q.12 The kingpin inclination is usually
9

- Ans 1. 7° to 9°
 2. Between $1/2^\circ$ to 2°
 3. 2° to 5°
 4. Less than $1/2^\circ$

Question ID : 3342
Chosen Option : 2

Q.13 An engine has a swept volume of 300 CC. If the compression ratio is
0 8 : 1, then the clearance volume is

- Ans 1. 50 CC
 2. 36.66 CC
 3. 42.86 CC
 4. 33.33 CC

Question ID : 3316
Chosen Option : 2

Q.13 The following anti roll device is used in independent suspension syst
1 em

- Ans 1. Torsion bar
 2. Stabilizer bar
 3. Wishbone arm
 4. Torque rod

Question ID : 3343
Chosen Option : 3

Q.13 Function of hand primer during air lock is to
2

- Ans 1. supply diesel to injector
 2. supply diesel from FIP to injector
 3. supply diesel from tank to fuel injection pump

Question ID : 3324
Chosen Option : 3

4. supply diesel to engine cylinder

Q.13 Gantt charts are used for

3

Ans 1. linear programming

2. sales forecasting

3. scheduling and routing

4. production schedule

Question ID : 3379

Chosen Option : 3

Q.13 A hydraulic Jack is a device used to

4

Ans 1. increase the intensity of pressure of water by means of energy available from a large quantity of water at low pressure

2. lift larger load by the application of a comparatively much small force

3. store pressure energy which may be supplied to a machine later on

4. decrease the pressure energy which is supplied to the machine

Question ID : 3406

Chosen Option : 2

Q.13 Brinnell hardness number is expressed by the equation

5

Ans $BHN = \frac{2L}{\pi D(D + \sqrt{D^2 - d^2})}$

1.

$BHN = \frac{L}{\pi D(D + \sqrt{D^2 - d^2})}$

2.

$BHN = \frac{L}{\pi D(D - \sqrt{D^2 - d^2})}$

3.

$BHN = \frac{2L}{\pi D(D - \sqrt{D^2 - d^2})}$

4.

Question ID : 3447

Chosen Option : 1

Q.13 Which of the following tractor is based on type of drive

6

Ans 1. Earth moving tractor

2. Row Crop tractor

3. Industrial tractor

4. Full track tractor

Question ID : 3401

Chosen Option : 1

Q.13 If t_o , t_m and t_p represent the Optimistic, most probable and pessimistic time for a project, then by probability analysis, most probable expected time $t_e =$

7

Ans $\frac{t_o + 6t_m + t_p}{6}$

1.

$\frac{2t_o + 4t_m + t_p}{6}$

2.

$\frac{t_o + 6t_m + 4t_p}{6}$

3.

$\frac{t_o + 4t_m + t_p}{6}$

4.

Question ID : 3398

Chosen Option : 1

Q.13 Which tool is used for tightening cylinder head nuts
8

- Ans 1. Torque wrench
 2. Ring spanner
 3. Tubular spanner
 4. DE spanner

Question ID : 3354
Chosen Option : 2

Q.13 When taking a turn, the differential without differential lock supplies
9

- Ans 1. Less torque to outer wheel
 2. Equal torque to both inner and outer wheels
 3. no torque to the inner wheel
 4. More torque to outer wheel

Question ID : 3350
Chosen Option : 2

Q.14 Salvaging means
0

- Ans 1. adjusting losses against assets
 2. disposing off property in as such condition
 3. mortgaging property
 4. disposing off property which is no longer useful in present situation

Question ID : 3399
Chosen Option : 4

Q.14 The method of centreless grinding used to produce taper is
1

- Ans 1. In feed grinding
 2. End feed grinding
 3. Cylindrical grinding
 4. Through feed grinding

Question ID : 3448
Chosen Option : 3

Q.14 A bolt of M 24 x 2 means that
2

- Ans 1. The nominal diameter of bolt is 24mm and pitch is 2mm
 2. Cross sectional area of the threads is 24mm^2
 3. the effective diameter of bolt is 24mm and there are 2 threads per cm
 4. The pitch of the thread is 24mm and depth is 2mm

Question ID : 3432
Chosen Option : 1

Q.14 The wastage of material in the store is taken into account by the following method in the evaluation of the material issued from the stores
3

- Ans 1. Inflated system
 2. Variable price method
 3. Primary cost method
 4. Current value method

Question ID : 3385
Chosen Option : 2

Q.14 Two shafts A and B are made of the same material. The diameter of shaft B is twice that of shaft A. The ratio of power which can be transmitted by shaft A to the shaft B is
4

- Ans 1. 1/8
 2. 1/2
 3. 1/4
 4. 1/16

Question ID : 3428
Chosen Option : 2

Q.14 The moment of inertia of a triangular section of base (b) and height (h) about an axis through its base is
5

Question ID : 3418
Chosen Option : 2

Ans

1. $\frac{bh^3}{36}$
2. $\frac{bh^3}{12}$
3. $\frac{bh^3}{8}$
4. $\frac{bh^3}{4}$

Q.14 Hardenability of steel

6

- Ans 1. is the ability of steel to resist abrasion, wear and penetration
2. is the property which determines the depth of the hardened zone induced by quenching
3. is its ability to withstand shocks
4. is achieved throughout its full depth, when the actual cooling rate equals the critical cooling rate

Question ID : 3442

Chosen Option : 2

Q.14 When a bar lengthened or shortened by a load, it simultaneously becomes narrower or wider. The ratio of this strain in the direction of width to the simultaneous strain in the direction of the length is called

7

- Ans 1. Young's modulus
2. Hooke's ratio
3. Euler's ratio
4. Poisson's ratio

Question ID : 3423

Chosen Option : 1

Q.14 Engine overheating may result due to

8

- Ans 1. Radiator pressure cap stuck closed
2. Broken fan belt
3. Thermostat stuck open
4. Excess coolant in the system

Question ID : 3363

Chosen Option : 1

Q.14 The most widely used type of stub axle used in heavy vehicles

9

- Ans 1. Elliot type
2. Reversed Lamoine type
3. Reversed elliot type
4. Lamoine type

Question ID : 3332

Chosen Option : 2

Q.15 The rear axle half shaft is connected to

10

- Ans 1. Sun gear
2. Crown wheel
3. Drive pinion
4. Differential cage

Question ID : 3340

Chosen Option : 4