

(b) जीतल्ले तेकाल्ले अल्पे गेणुलेले :-

5

- (1) जेव्हा (तेकले +तेकले) १/२ वे एवढे]देहाल्ले] एवढे.
- (2) एवढे < एवढे एवढे एवढे + एवढे
- (3) < एवढे]देहा + एवढे]देहा]देहा]देहा एवढे.
- (4) B; ०. + एवढे. (एवढे एवढे १/२ वे]देहा एवढे + एवढे] एवढे एवढे.
- (5) अल्पे एवढे. + एवढे. < एवढे एवढे १/२ वे एवढे <]देहा एवढे एवढे.

2. एवढे एवढे नुमे]देहा एवढे :-

16

- (+) + +]देहा एवढे एवढे.
- (५) एवढे एवढे]देहा एवढे < एवढे]देहा एवढे + एवढे एवढे एवढे.
- (E) मे १/२ वे एवढे एवढे एवढे एवढे एवढे मे १/२ वे एवढे एवढे एवढे.
- (b) एवढे एवढे एवढे एवढे एवढे एवढे एवढे एवढे.

3. एवढे एवढे नुमे]देहा एवढे :-

16

- (+) B; ०. + एवढे. < एवढे एवढे एवढे. < एवढे एवढे एवढे एवढे.
- (५) + एवढे एवढे एवढे एवढे एवढे एवढे एवढे.
- (E) एवढे एवढे एवढे एवढे एवढे एवढे एवढे.
- (b) एवढे एवढे एवढे एवढे एवढे एवढे एवढे.

4. जीतल्ले]देहा एवढे एवढे एवढे = एवढे एवढे (एवढे एवढे नुमे) :-

16

- (+) जेव्हा < एवढे]देहा एवढे एवढे एवढे एवढे एवढे.
- (५) एवढे एवढे एवढे एवढे एवढे एवढे एवढे.
- (E) एवढे < एवढे]देहा एवढे एवढे एवढे एवढे एवढे.
- (b) एवढे एवढे एवढे एवढे एवढे एवढे एवढे.

5. एवढे ते (एवढे एवढे से) :-

16

- (+) एवढे एवढे
- (५) एवढे एवढे एवढे
- (E) < एवढे एवढे एवढे
- (b) एवढे
- (<) B + एवढे एवढे

6. एवढे एवढे नुमे]देहा एवढे :-

16

- (+) एवढे एवढे एवढे एवढे एवढे एवढे एवढे.
- (५) एवढे एवढे जेव्हा < एवढे एवढे एवढे एवढे एवढे.
- (E) एवढे एवढे एवढे एवढे एवढे एवढे एवढे.
- (b) गॅरेजमध्ये वापरण्यात येणाऱ्या हत्यारे व अवजारांची यादी करा.

(ENGLISH)

[TIME ALLOWED — 3 HOURS]

(MARKS — 100)

DIESEL ENGINE (THEORY-I)

- Instructions.*—(1) All questions are compulsory.
 (2) Draw neat sketches, wherever necessary.

Marks

1. (a) Fill in the blanks :— 5
- (i) ring is provided for lubrication and sealing between cylinder wall and piston.
 - (ii) Diesel engines are equipped with for atomization of fuel.
 - (iii) is used to provide specific tightening torque.
 - (iv) Compression ignition engine is invented by
 - (v) Diesel fuel supply is equipped with and filter.
- (b) Match the following pairs :— 5
- | ‘ A ’ Group | ‘ B ’ Group |
|-----------------------|------------------------|
| (i) Governor | (1) F. I. pump |
| (ii) Thermostat valve | (2) Big end bearing |
| (iii) Connecting rod | (3) Feed pump |
| (iv) Relief valve | (4) Cooling system |
| (v) Starter | (5) Lubrication system |
| | (6) Solenoid switch. |
- (c) State *true* or *false* :— 5
- (i) Steam engine is also known as internal combustion engine.
 - (ii) Inlet valve is larger in size as compare to exhaust valve.
 - (iii) Diesel engine are having lower compression ratio as compare to S. I. engine.
 - (iv) F. I. Pump is used only for fuel supply to the diesel engine.
 - (v) During cold season the heater plug is required for starting the diesel engine.
- (d) Give the suitable word for following term :— 5
- (i) The process of removing air from the diesel fuel supply system known as.
 - (ii) The compression ratio of diesel engine is.
 - (iii) The test by which the injector opening pressure can be tested.
 - (iv) The processes of adjusting the F. I. pump delivery and timing.
 - (v) The system which increase the volumetric efficiency of C. I. Engine.

[Turn over]

2. Attempt any *two* of the following :— 16
- (a) Explain the working of alternator.
 - (b) Explain the different types of injector nozzle with neat sketch.
 - (c) What is the purpose of governor ? Also explain the working of mechanical governor ?
 - (d) What is the function of cooling system ? What are the different types of it ?
3. Attempt any *two* of the following :— 16
- (a) Differentiate between S. I. Engine and C. I. Engine.
 - (b) Explain the purpose of lubrication system ?
 - (c) Explain the construction and working of starting motor ?
 - (d) Prepare the maintenance schedule for diesel car ?
4. Answer the following in brief (any *two*) :— 16
- (a) Explain the different tests carried out on fuel injector ?
 - (b) Explain the different circuits used in carburetor ?
 - (c) Explain the setting of diesel engine timing ?
 - (d) Explain the working of four stroke compression ignition engine ?
5. Write short notes on following (any *four*) :— 16
- (a) Feed pump
 - (b) Thermostat valve
 - (c) Ignition coil
 - (d) Battery
 - (e) Air cleaner.
6. Attempt any *two* of the following :— 16
- (a) Explain in detail about the working of pump circulating water cooling system ?
 - (b) Explain the common rail fuel injection system in detail ?
 - (c) Explain the procedure of phasing and calibration ?
 - (d) List out the different tools and equipments used in motor vehicle garage ?
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