

MAHARASHTRA STATE BOARD OF SKILL DEVELOPMENT EXAMINATION, MUMBAI

Examination—July, 2020

CERTIFICATE COURSE IN AUTOMOBILES ENGINEERING

[१७]—3 iEE

(BEthE NthE—100)

१७१७० (१७१७०, १७१७० <१७१७०, १७१७० १७१७०, १७१७०
१७१७० १७१७० १७१७० +hb÷ १७१७० (१११+ ७३)

१७१७०—(1) १७१७० १७१७० + १७१७०.

(2) + १७१७० १७१७० १७१७० १७१७० १७१७०.

(3) = १७१७० १७१७० + १७१७० (१७१७० १७१७० १७१७०).

NthE

1. (+) १७१७० १७१७० १७१७० १७१७० (१७१७०) (१७१७०) :—

5

(1) (१७१७० १७१७० १७१७० १७१७० १७१७० १७१७० + १७१७० १७१७० १७१७० B १७१७० १७१७०
(+) 10:1 (१) 15:1 (E) 20:1.

(2) १७१७० < १७१७० १७१७० १७१७०.

(+) १७१७० (१) < १७१७० (E) १७१७०

(3) १७१७० १७१७० < १७१७० १७१७० १७१७० फेन्त्यात एक पॉवर स्ट्रोक असतो.
(+) BE १७१७० (१) १७१७० (E) SE १७१७०

(4) १७१७० १७१७० १७१७० + १७१७० + १७१७० १७१७० १७१७० + १७१७०

(+) १७१७० १७१७० (१) १७१७० १७१७० (E) + १७१७० १७१७०

(5) १७१७० १७१७० १७१७० १७१७० १७१७० १७१७०

(+) १७१७० (१) १७१७० १७१७० (E) १७१७०.

(6) १७१७० १७१७० १७१७० १७१७० १७१७० १७१७० + १७१७०

(+) १७१७० १७१७० (१) १७१७० १७१७० (E) १७१७०

(१) १७१७० १७१७० १७१७० १७१७० १७१७० (१७१७०) (१७१७०) :—

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(1) १७१७० १७१७० १७१७० १७१७० १७१७० १७१७० १७१७० १७१७० १७१७०

(2) B + १७१७० १७१७० < १७१७० १७१७० १७१७० १७१७० १७१७०

(3) सतत बदलत असणाऱ्या कोनामध्ये शक्ती संक्रमित करण्यासाठी यू जॉईंट वापरतात.

(4) १७१७० १७१७० १७१७० १७१७० १७१७० १७१७०.

(5) (१७१७० १७१७० १७१७० १७१७० १७१७० १७१७० < १७१७० १७१७० १७१७०.

(6) १७१७० १७१७० १७१७० १७१७० १७१७० १७१७० १७१७० १७१७० १७१७० १७१७०.

(E) १७१७० १७१७० १७१७० १७१७० (१७१७०) (१७१७०) :—

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(1) १७१७० १७१७०. (2) १७१७०. B. १७१७०. (3) १७१७०. १७१७०.

(4) १७१७०. b. १७१७०. (5) B. १७१७०. < (6) B. १७१७०.

[=+ १७१७० १७१७०]

(ENGLISH)

[TIME ALLOWED—3 HOURS]

(MARKS—100)

**BASIC PETROL, DIESEL ENGINES, TRANSMISSION, SUSPENSION,
STEERING SYSTEM AND BREAKS (THEORY-III)***Instructions.*— (1) All questions are *compulsory*.(2) Figures to the right indicate *full* marks.(3) Illustrate your answers with neat sketches whenever *necessary*.**Marks**1. (a) Fill in the blanks (any *five*) :—

5

(i) In Petro-oil lubrication system ratio of petrol and oil is

(a) 10:1 (b) 15:1 (c) 20:1.

(ii) is used in diesel engine.

(a) Spark plug (b) Injector (c) Carburetor.

(iii) In our stroke engine, there is one power stroke in every revolutions of the crankshaft.

(a) one (b) two (c) four.

(iv) In vehicle speed is more and torque is less.

(a) First gear (b) Top gear (c) Idler gear.

(v) is a semi solid lubricant.

(a) Grease (b) Graphite Powder (c) Mica.

(vi) Generally injector is placed on of the engine.

(a) Cylinder head (b) Cylinder block (c) Crankcase.

(b) State whether *true* or *false* (any *five*) :—

5

(i) Oil level of oil sump is checked with the help of dipstick.

(ii) Water jacket is used on air cooled engine.

(iii) Power is transmitted at any varied angle by using U joint.

(iv) Helper spring is used in car.

(v) Petro-oil lubrication system is used in two stroke engine.

(vi) Gearbox and differential are in one integrated unit in transaxle.

(c) State the long forms of the following (any *five*) :—

5

(i) C.V.T.

(ii) C.N.G.

(iii) P.U.C.

(iv) C.D.I.

(v) S.A.E.

(vi) A.B.S.

[Turn over

(d) Match the following pairs :—

5

' A ' Group

- (i) Air cooled engine
- (ii) Connecting Rod
- (iii) Cross and yoke type U joint
- (iv) Supercharger
- (v) Steering system

' B ' Group

- (a) Cross spider
- (b) Constant Mesh Type
- (c) Drop arm
- (d) Fins
- (e) Vane Types
- (f) Big end.

2. Attempt any *two* of the following :—

16

- (a) Explain semi-elliptical leaf spring with a neat sketch.
- (b) Explain the magneto ignition system with a neat sketch.
- (c) Explain caster angle and camber angle.
- (c) Explain two-stroke spark ignition engine with neat sketches of down ward stroke and upward stroke.

3. Attempt any *two* of the following :—

16

- (a) Explain Tandem Master Cylinder with neat sketch.
- (b) Explain centrifugal type supercharger with neat figure.
- (c) State the causes and remedies on "Hard Steering".
- (d) Explain the Forced feed lubrication (Pressure Lubrication) system with neat figure.

4. Attempt any *two* of the following :—

16

- (a) Explain Mechanical Break System with neat figure.
- (b) Explain oil pressure gauge with neat sketch.
- (c) State the causes and remedies on engine becomes hot.
- (d) What are the types of clutches ? Why clutch is given on the motor vehicle ?

5. Write short note (any *four*) :—

16

- (a) Types of Lubricants
- (b) Poppet Valve
- (c) Clutch pedal free play
- (d) Spray test of injector
- (e) Toe-in and Toe-out.

6. Attempt any *two* of the following :—

16

- (a) What are the types of Piston on the basis of Piston Head ? Explain with sketches.
- (b) What is First-Aid ? List the materials in First-Aid box.
- (c) Draw the figure of Single plate clutch and describe it.
- (d) Distinguish between two stroke engine and four stroke engine.