Exam

Name_____

MULTIPLE CHOICE. Choose the one alternative that best completes the statement or answers the question.

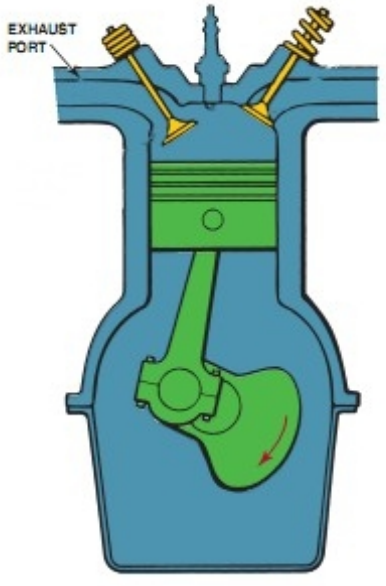
1) Torque is expressed in units of _____. 1) _____
A) Pound-feet per second B) Pound-feet
C) Foot-pounds per minute D) Pounds per minute

2) One cylinder of an automotive four-stroke cycle engine completes a cycle every _____. 2) _____
A) 720° B) 90° C) 180° D) 360°

3) The following statements are all correct EXCEPT _____. 3) _____
A) Torque always results in movement.
B) Torque is the measurement of rotational force.
C) Torque is often expressed in pound-feet.
D) All of the above answers are correct.

4) An 8 cylinder engine with a bore of 4.000 inches and a stroke of 3.000 inches has a displacement of _____. 4) _____
A) 226 cubic inches B) 350 cubic inches
C) 383 cubic inches D) 302 cubic inches

5) Which part of the four stroke cycle is illustrated in this drawing? 5) _____



A) Power B) Compression C) Intake D) Exhaust

6) An engine with a displacement of 302 cubic inches converts to _____ liters (rounded off). 6) _____
A) 4.9 B) 3.7 C) 49 D) 5.7

7) The _____ converts linear motion of the pistons into rotary motion. 7) _____
A) Camshaft B) Crankshaft C) Connecting rod D) None of these

8) A rotating force is called _____. 8) _____
A) Combustion pressure B) Horsepower
C) Eccentric movement D) Torque

9) What part of the engine is considered to be the foundation of the engine? 9) _____
A) Block B) Crankshaft
C) Cylinder head(s) D) Pistons

10) An engine's cylinders have all been bored 0.030" oversize. This will cause the engine's _____ to increase. 10) _____
A) Length. B) Weight C) Displacement D) Stroke

11) The chemical energy in fuel is converted to heat by the burning of the fuel at a controlled rate. This process is called _____. 11) _____
A) Consumption B) Power C) Torque D) Combustion

12) How many rotations of the crankshaft are required to complete each stroke of a four-stroke cycle engine? 12) _____
A) Two B) One-fourth C) One D) One-half

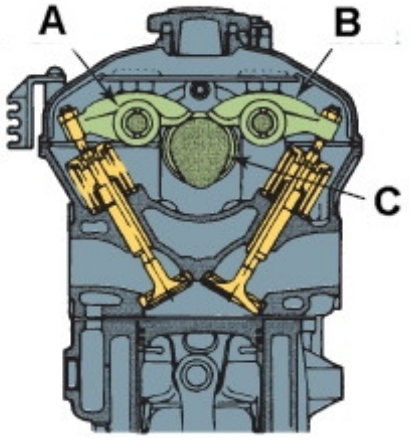
13) Which of these is the metric unit for torque? 13) _____
A) Pound-foot B) Kilogram-meter
C) Foot-pound D) Newton-meter

14) Which component listed below does NOT form part of the combustion chamber? 14) _____
A) Valve B) Piston C) Connecting rod D) Cylinder head

15) The ratio of the volume of a cylinder with the piston at BDC to the volume of the cylinder with the piston at TDC is known as _____. 15) _____
A) Displacement B) Volume ratio
C) Compression ratio D) None of these

16) A 5.7 liter engine is about what size in cubic inches? 16) _____
A) 400 B) 350 C) 305 D) 426

17) In this drawing, which item is the camshaft? 17) _____



A) B B) A C) C D) None of these

18) How many degrees of CRANKSHAFT rotation are needed to complete the four stroke combustion cycle? 18) _____
A) 180 B) 720 C) 90 D) 360

19) How many degrees of CRANKSHAFT rotation are required for a piston to travel from TDC to BDC and return to TDC? 19) _____
A) 180 B) 90 C) 720 D) 360

20) Technician A says that the crankshaft determines the stroke of an engine. Technician B says that the length of the connecting rod determines the stroke of an engine. Which technician is correct? 20) _____
A) Technician A only B) Technician B only
C) Both Technicians A and B D) Neither Technician A nor B

21) Horsepower is _____. 21) _____
A) A measurement of engine power
B) Calculated as torque multiplied by engine speed (RPM) and then divided by 5,252
C) Also called cubic inch displacement
D) Both A and B

22) The coolant flow through the radiator is controlled by the _____. 22) _____
A) Cooling Fan(s) B) Size of the passages in the block
C) Water pump D) Thermostat

23) What force turns the turbine shaft in a turbocharger? 23) _____
A) A belt B) Exhaust gases
C) Engine vacuum D) An electric motor

24) An SOHC V8 engine has how many camshafts? 24) _____
A) Four B) Three C) Two D) One

25) Which component is NOT needed in a typical overhead cam engine? 25) _____
A) Rocker arm B) Push rod C) Camshaft D) Valve spring

26) All overhead valve engines _____. 26) _____

A) Use an overhead camshaft
B) Operate by the Wankel cycle
C) Have the valves located in the cylinder head
D) Use the camshaft to close the valves

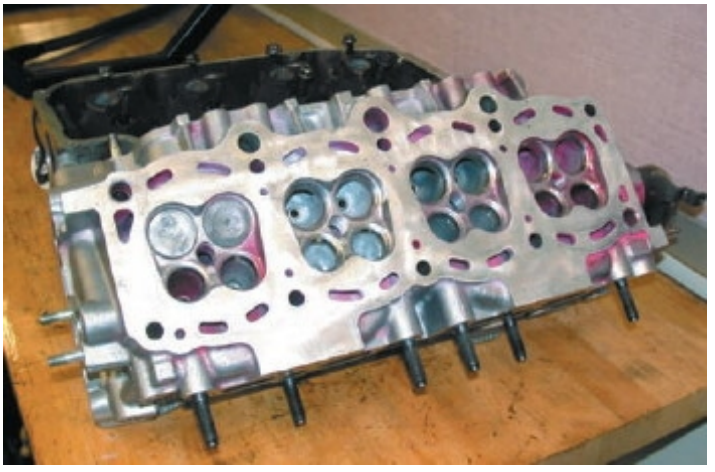
27) How many degrees of CAMSHAFT rotation are needed to complete the four stroke combustion cycle? 27) _____

A) 360 B) 720 C) 180 D) 90

28) The diameter of a cylinder is called the _____. 28) _____

A) Diameter B) Radius C) Bore D) Stroke

29) Identify this engine component. 29) _____



A) Flat head valve assembly B) Cylinder head
C) Engine block D) Cylinder block

30) How many degrees of CAMSHAFT rotation are needed for a piston to travel from TDC to BDC and return to TDC? 30) _____

A) 360 B) 720 C) 90 D) 180