**LOK NAYAK JAIPRAKASH INSTITUTE OF TECHNOLOGY CHAPRA, BIHAR**

**(**Established under AICET Act, \_\_\_\_\_)

**Department of Mechanical Engineering**

**021821 Mechanical System Design**

**QUIZ**

**1.** The cylinders are usually made of

(*a*) cast iron or cast steel (*b*) aluminium

(*c*) stainless steel (*d*) copper

**2.** The length of the cylinder is usually taken as

(*a*) equal to the length of piston (*b*) equal to the length of stroke

(*c*) equal to the cylinder bore (*d*) 1.5 times the length of stroke

**3.** The skirt of piston

(*a*) is used to withstand the pressure of gas in the cylinder

(*b*) acts as a bearing for the side thrust of the connecting rod

(*c*) is used to seal the cylinder in order to prevent leakage of the gas past the piston

(*d*) none of the above

**4.** The side thrust on the cylinder liner is usually taken as ........... of the maximum gas load on the piston.

(*a*) 1/5 (*b*) 1/8 (*c*) 1/10 (*d*) 1/5

**5.** The length of the piston usually varies between

(*a*) *D* and 1.5 *D* (*b*) 1.5 *D* and 2 *D* (*c*) 2*D* and 2.5 *D* (*d*) 2.5 *D* and 3 *D*

where *D* = Diameter of the piston.

**6.** In designing a connecting rod, it is considered like .......... for buckling about *X-*axis.

(*a*) both ends fixed

(*b*) both ends hinged

(*c*) one end fixed and the other end hinged

(*d*) one end fixed and the other end free

**7.** Which of the following statement is wrong for a connecting rod?

(*a*) The connecting rod will be equally strong in buckling about *X-*axis, if *Ixx* = 4 *Iyy.*

(*b*) If *Ixx >* 4 *Iyy,*,the buckling will occur about *Y-*axis.

(c) If *Ixx <* 4*Iyy*,the buckling will occur about *X-*axis.

(*d*) The most suitable section for the connecting rod is *T-*section

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**8.** The crankshaft in an internal combustion engine

(*a*) is a disc which reciprocates in a cylinder

(*b*) is used to retain the working fluid and to guide the piston

(*c*) converts reciprocating motion of the piston into rotary motion and vice versa

(*d*) none of the above

**9.** The rocker arm is used to actuate the inlet and exhaust valves motion as directed by the

(*a*) cam and follower (*b*) crank (*c*) crankshaft (*d*) none of these

**10.** For high speed engines, a rocker arm of........... should be used.

(*a*) rectangular section (*b*) *I-*section (*c*) *T-*section (*d*) circular