



INDIAN SCHOOL AL WADI AL KABIR

Class: XII	Department: SCIENCE	Date of completion: 14th May2020
Worksheet No:2 Q & A	Topic: Engineering Graphics - <u>MACHINE DRAWING</u>	Note: A4 FILE FORMAT
Name of the student	CLASS / SEC.	ROLL NO.

1. Draw to 1:1 the front elevation and side view of a hexagonal head bolt of M30 size, keeping the axis horizontal. Give standard dimensions.
2. Draw to scale 1:1 the standard profile of a BSW thread, taking enlarged pitch = 30 mm, Give standard dimensions.
3. Draw to scale 1:1 the standard profile of a metric thread (internal) taking enlarged pitch = 60 mm, Give standard dimensions.
4. Draw to scale 1:1 the front view and top view of a square head bolt of diameter 26 mm, keeping its axis vertical.
5. Draw to 1:1 the front view and side view of a tee head bolt of diameter of 30 mm keeping the axis horizontal.
6. Sketch freehand, front view and side view of a stud with collar, keeping the axis vertical. Give standard dimensions.
7. Sketch freehand the front view and top view of a round head screw of size M10, keeping its axis vertical. Give standard dimensions.
8. Sketch freehand the front view and top view of a grub screw of size M20, keeping its axis vertical. Give standard dimensions.
9. Sketch freehand the front view and top view of a flat head rivet of diameter 20 mm, keeping its axis vertical. Give standard dimensions.
10. Sketch freehand the front view, side view and plan of a woodruff key of 60 mm diameter. Give standard dimensions.

MULTIPLE CHOICE QUESTIONS

1.The distance moved by a nut or bolt in the axial direction in one complete rotation is called as-----

- a) Pitch
- b)Lead
- c) crest
- d) None of the above

2. The machine parts which can be separated only breaking the fastening is called as-----

- a) Temporary fastener
- b) Permanent fastener
- c) Screw thread
- d) Screw pair

3.A helical groove cut along the outer circumference of a cylinder is called a -----

- a) Fastener
- b) Nut
- c) Bolt
- d) Screw thread

4.The nut and bolt together is called as -----

- a) Screw pair
- b) Fastener
- c)Nut
- d) Bolt

5.The surface connecting crest and root is called as -----

- a)Flank
- b)Root
- c)Lead
- d)Pitch

6.Which type of thread is used in the neck of glass bottles -----

- a)BSW thread
- b)Metric thread
- c) Knuckle thread
- d) Square thread

7.The shank of the J bolt passes through a hole only -----

- a) Single part
- b)Two parts
- c)Three parts
- d)None of the above

8.The shape of the hook bolt is -----

- a) Alphabet of B
- b) Alphabet of J
- c) Alphabet of K
- d) Alphabet of M

9. Which one is a permanent fastener-----

- a) Nut
- b) Bolt
- c) Rivets
- d) Washer

10. A circular plate which provides a smooth bearing surface is called as -----

- a) Nut
- b) Bolt
- c) Washer
- d) None of the above

11. Nuts will have which type of threads-----

- a) Internal threads
- b) External threads
- c) V threads
- d) None of the above

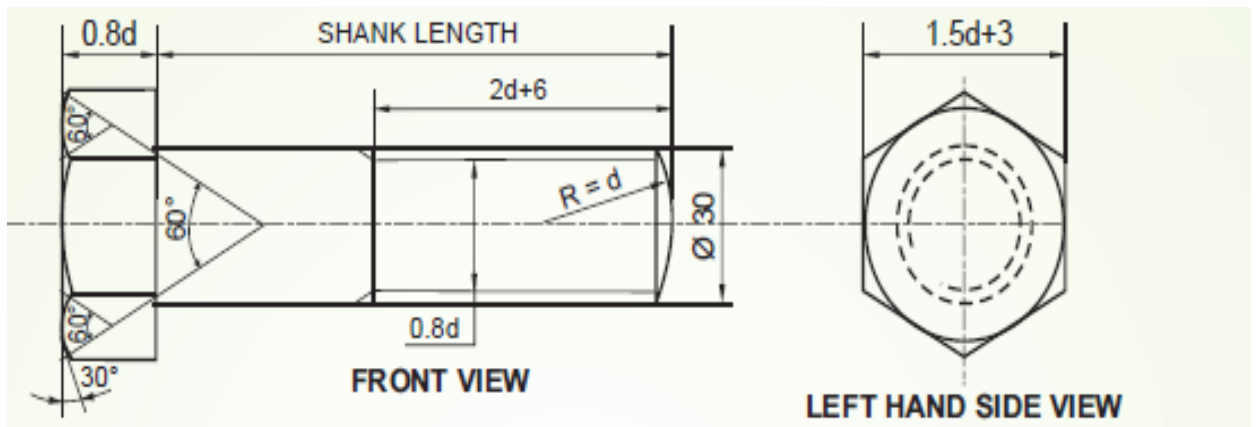
ANSWERS

MULTIPLE CHOICE QUESTIONS

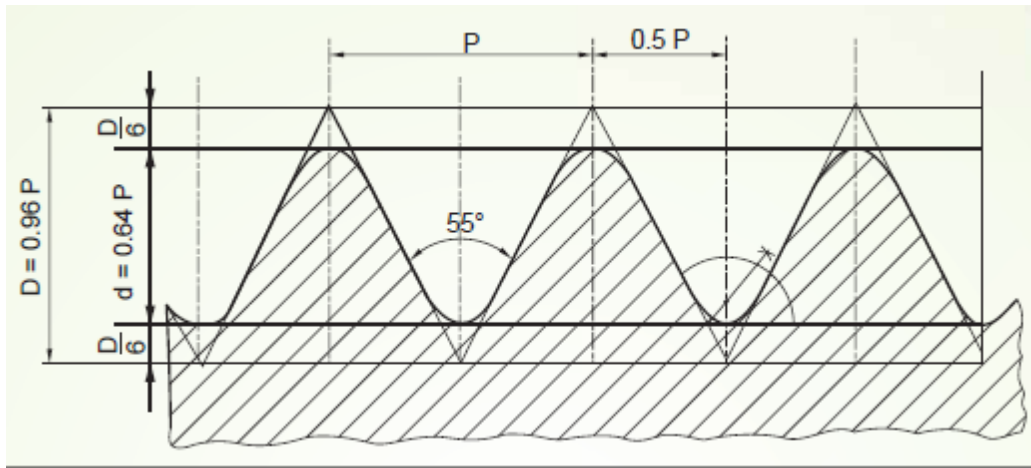
1. b) Lead
2. b) Permanent fastener
3. d) Screw thread
4. a) Screw pair
5. a) Flank
6. c) Knuckle
7. a) Single part
8. b) Alphabet of J
9. c) Rivets
10. c) Washer
11. a) Internal threads

SOLUTIONS FOR DRAWINGS

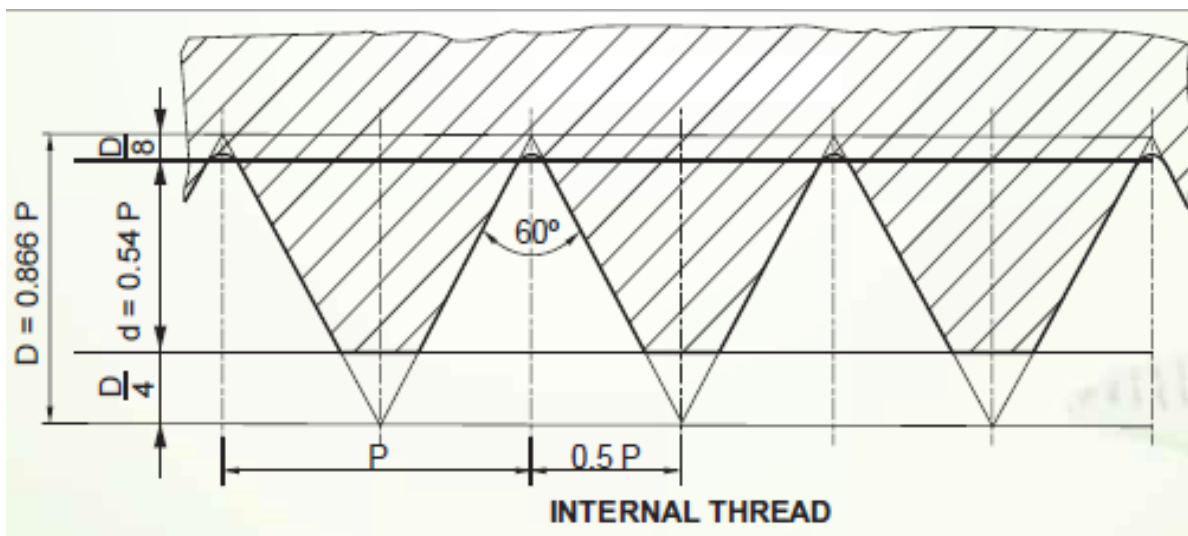
1. (Hint : standard dimensions of hexagonal headed bolt should be calculated in terms of d)



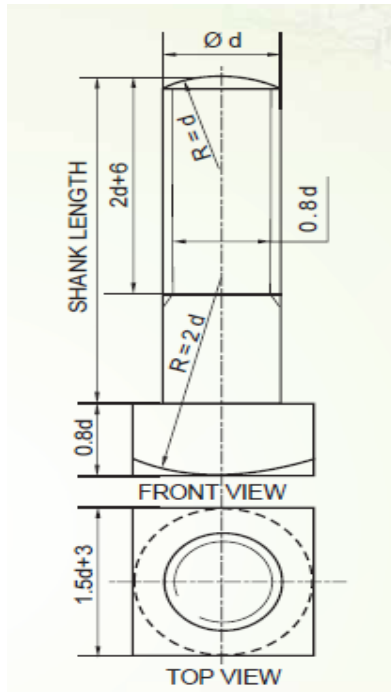
2. (Hint : Standard dimensions of BSW thread should be calculated with the pitch given = 30mm)



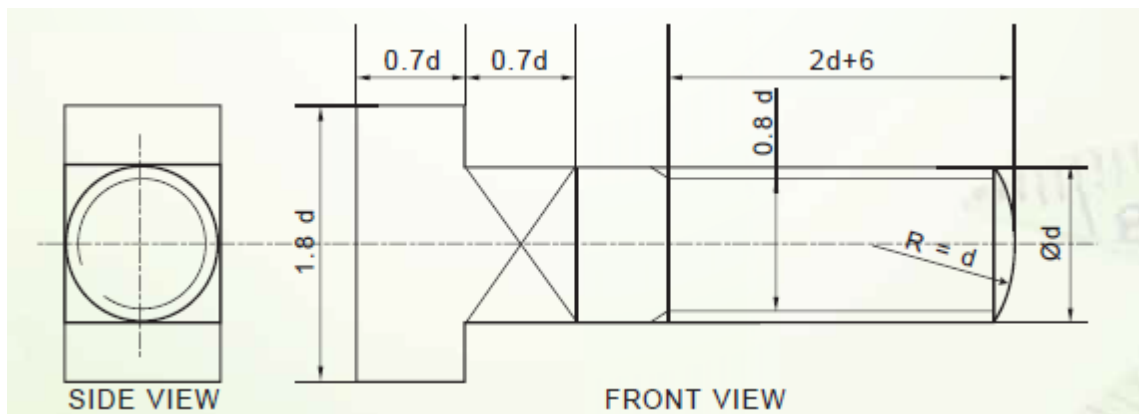
3. (Hint : Standard dimensions of Metric thread internal should be calculated with the pitch given = 60mm)



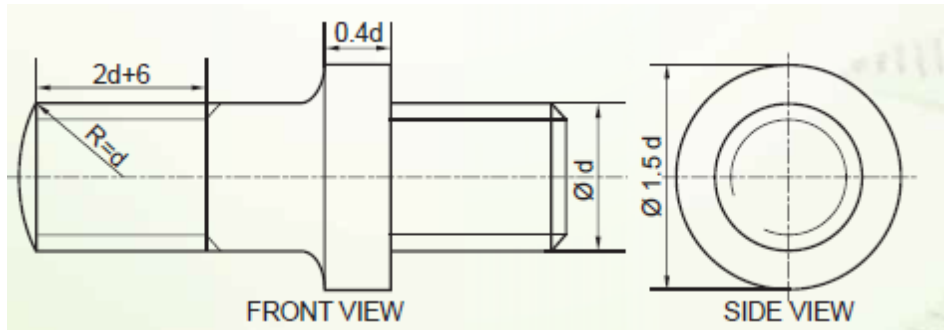
4. (Hint : Standard dimensions of square headed bolt in terms of d , $d = 26$ mm)



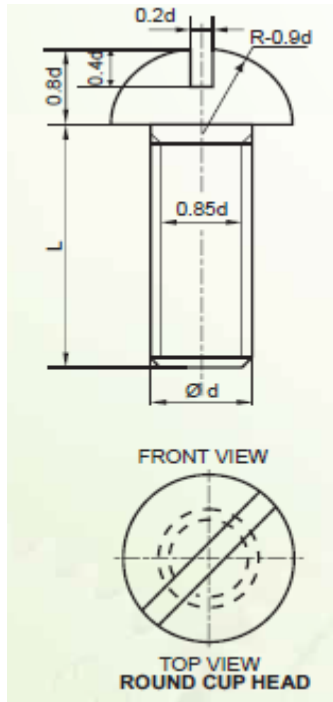
5. (Hint : Standard dimensions of Tee headed bolt in terms of d , $d = 30$ mm)



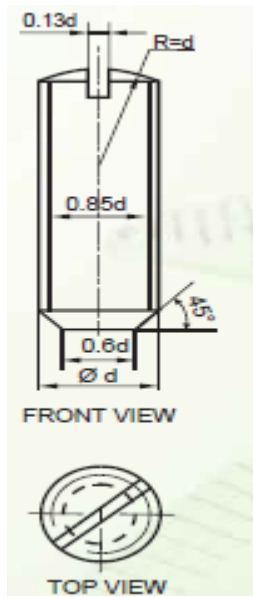
6. (Hint : Free hand sketch of stud with collar , d can be taken proportionately and calculate standard dimensions) .



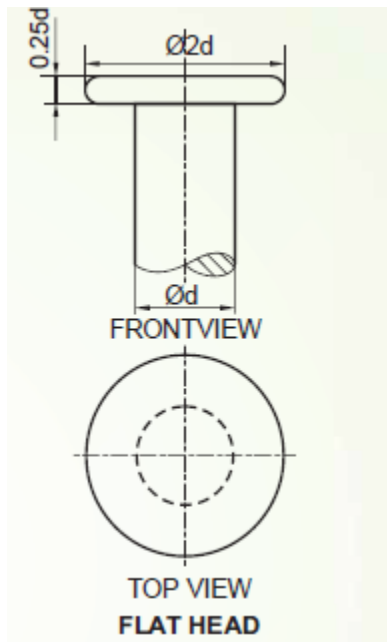
7.(Hint : Free hand sketch of Round head screw , standard dimensions should be calculated with M10) .



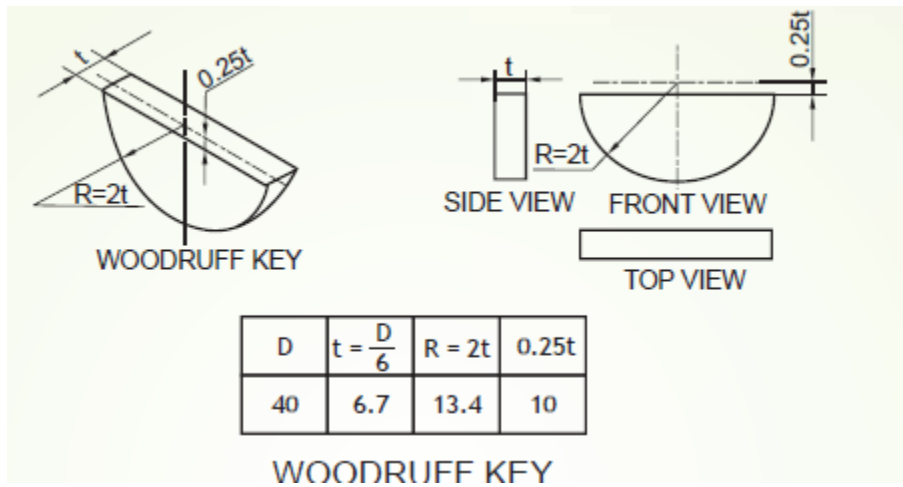
8. (Hint : Free hand sketch of Grub screw , standard dimensions should be calculated with M20)



9. (Hint : Free hand sketch of flat head rivet ,stand dimensions calculated with $d = 20$ mm).



10. (Hint : Free hand sketch of woodruff key with d = 60 mm)



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CHECKED BY : HOD - SCIENCE