

# WANDOOR GANITHAM - S S L C UNIT TEST 2021

8.08AE

SOLIDS

Total Score : 20

Time : 40 minutes

1. The base radius and height of a cone are 6 centimetres and 8 centimetres .
  - a) What is its slant height ?
  - b) What is its surface area ? ( 2 )
2. The base radius and slant height of a cone are 9 centimetres and 15 centimetres .
  - a) What is its height ?
  - b) What is its volume ? ( 2 )
3. The slant height of a cone makes an angle  $30^\circ$  with its height . The slant height is 40 centimetres .
  - a) What is the relation connecting the radius, the height and the slant height of a cone?
  - b) What is its radius ? ( 2 )
4. A sector of central angle  $90^\circ$  is cut out from a circle of radius 12 centimetres and is rolled up into a cone .
  - a) What is its slant height ?
  - b) What is its radius ?
  - c) What is its curved surface area ? ( 3 )
5. The base radii of two cones are in the ratio 3 : 4 and their heights are in the ratio 5 : 6
  - a) If the base radius of the first cone is taken as  $3r$  , what will be the base radius of the second cone ?
  - b) What is the ratio of their volumes ?
  - c) If the volume of the first cone is  $180\pi$  cubic centimetres , what will be the volume of the second cone ? ( 3 )

6. The base radius and height of a solid metal cylinder are 18 centimetres and 24 centimetres . The cylinder is melted and recast into cones of base radius 6 centimetres and height 8 centimetres .

a) What is the volume of the cylinder ?

b) What is the volume of a cone ?

c) What is the number of cones obtained ?

d) If another solid metal cylinder of same dimensions as the first is melted and recast into cones of base radius 3 centimetres and height 8 centimetres , what will be the number of cones obtained ? ( 4 )

7. A conical fire work is of base area  $64\pi$  square centimetres and height 15 centimetres . 10000 such fire works are to be wrapped in colour paper .The price of the colour paper is 5 rupees per square metre.

a) What is the base radius of a fire work ?

b) What is the slant height of a fire work ?

c) What is the surface area of a fire work ?

d) What is the total cost ? ( 4 )

( hint :  $\pi = 3.14$  )