Q1. A cloth having an area of 165m^2 is shaped into the form of a conical tent of radius 5m **7 Marks**

1. How many students can sit in the tent if a student, on an average, occupies $\frac{5}{7}\mathrm{m}^2$ on the ground?
2. Find the volume of the cone.

Q2. A hemispherical bowl is made of steel 0.25cm thick. The inner radius of the bowl is 5cm. Find the outer curved surface area of the bowl. $\left(\text{Take } \pi = \frac{22}{7}\right)$. **3 Marks**

Q3. A tent is in the form of a right circular cylinder surmounted by a cone. The diameter of cylinder is 24m. The height of the cylindrical portion is 11m while the vertex of the cone is 16m above the ground. Find the area of the canvas required for the tent. **3 Marks**

Q4. A capsule of medicine is in the shape of a sphere of diameter 3.5mm. How much medicine (mm^3) is needed to fill this capsule? **3 Marks**

Q5. The radius of a cone is 7cm and area of curved surface is 176cm^2. Find the slant height. **3 Marks**

Q6. How many lead shots, each 3mm in diameter, can be made from a cuboid with dimensions. (12cm × 11cm × 9cm)? $\left(\text{Take } \pi = \frac{22}{7}\right)$. **3 Marks**

Q7. A conical tent is 10m high and the radius of its base is 24m. Find: **3 Marks**
Cost of the canvas required to make the tent, if the cost of 1m^2 canvas is ₹ 70.
$\left[\textbf{Hint: } \text{Assume } \pi = \frac{22}{7}, \text{ unless stated otherwise}\right]$

Q8. How many spherical bullets can be made out of a solid cube of lead whose edge measures 44cm, each bullet being 4cm in diameter? **3 Marks**

Q9. Find the volume and surface area of a sphere whose radius is: $\left(\text{Take } \pi = \frac{22}{7}\right)$. **3 Marks**
4.2cm

Q10. The radius and slant height of a cone are in the ratio 4 : 7. If its curved surface area is 792cm^2, find its radius. **3 Marks**

Q11. Find the volume of a sphere whose surface area is 154cm^2. **3 Marks**
$\left[\textbf{Hint: } \text{Assume } \pi = \frac{22}{7}, \text{ unless stated otherwise}\right]$

Q12. Find the total surface area of a cone, if its slant height is 21m and diameter of its base is 24m. **3 Marks**

Q13. A sphere of diameter 15.6cm is melted and cast into a right circular cone of height 31.2cm. Find the diameter of the base of the cone. **3 Marks**

Q14. The diameter of a copper sphere is 18cm. The sphere is melted and is drawn into a long wire of uniform circular cross-section. If the length of the wire is 108m, find its diameter. **3 Marks**

Q15. Metal spheres, each of radius 2cm, are packed into a rectangular box of internal dimensions 16cm × 8cm × 8cm. When 16 spheres are packed the box is filled with preservative liquid. Find the volume of this liquid. Give your answer to the nearest integer. $[\text{Use } \pi = 3.14]$ **3 Marks**

Q16. If the volume of a right circular cone of height 9cm is $48\pi\mathrm{cm}^3$, find the diameter of its base. **3 Marks**

Q17. A joker's cap is in the form of a right circular cone of base radius 7cm and height 24cm. Find the area of the sheet required to make 10 such caps. **3 Marks**

[**Hint:** Assume $\pi = \frac{22}{7}$, unless stated otherwise]

Q18. Find the volume of the right circular cone with: **3 Marks**
Radius 3.5cm, height 12cm

[**Hint:** Assume $\pi = \frac{22}{7}$, unless stated otherwise]

Q19. A cylinder and a cone have equal radii of their bases and equal heights. Show that their volumes are in the ratio 3 : 1. **3 Marks**

Q20. There are two cones. The curved surface area of one is twice that of the other. The slant height of the later is twice that of the former. Find the ratio of their radii. **3 Marks**

Q21. A metallic sphere of radius 10.5cm is melted and then recast into smaller cones, each of radius 3.5cm and height 3cm. How many cones are obtained? **3 Marks**