

GOVERNMENT DEGREE COLLEGE, GANDERBAL
DEPARTMENT OF MATHEMATICS

Assignment for BA / BSc 5th Semester Regular/ Backlog

PLANE AND SOLID GEOMETRY
Marks: 90

Course Code:MM516DA

Attempt any four questions and each question carries equal marks.

Q1. Find the equations of tangents and normal to the parabola

$$y^2 = 12x$$

at the ends of the latus rectum.

Q2. Find the condition that the line $lx + my + n = 0$ may touch the ellipse

$$\frac{x^2}{a^2} + \frac{y^2}{b^2} = 1 \text{ and find the point of contact.}$$

Q3. Find the equation of hyperbola whose directrix is $2x + y = 1$ focus $(1,2)$ and eccentricity is $\sqrt{3}$

Q4. Find the limiting points of the system defined by the spheres

$$x^2 + y^2 + z^2 + 4x - 2y + 2z + 6 = 0 .$$

$$x^2 + y^2 + z^2 + 2x - 4y + 2z + 6 = 0$$

Q5. Find angle between the two straight lines which the plane $x + y + z = 0$ cuts cone

$$x^2 + y^2 - z^2 = 0.$$

Q6. Find the equation of cylinder whose generators are parallel to $\frac{x}{1} = \frac{y}{2} = \frac{z}{3}$ and whose guiding curve is $2x^2 + 3y^2 = 4, \quad z = 1$

Important Instructions:

1. The students will mail the assignment on email id gdcgbl56math@gmail.com.
2. **Last date of assignment submission is 26/06/20.**
3. The assignment must be handwritten.
4. Students must write page no., roll no., registration no. on the top right corner of each page.

5. A4 size ruled paper with not more than 10 pages converted into a single PDF file using. camscanner will be only accepted.
6. Students are advised to preserve hard copy of Assignment.
7. Do not copy answers from other students.
8. Assignments should be scanned properly for clear visibility.

Title page of assignment must contain

- Name of the candidate.....
- Semester.....
- Category:Fresh/Backlog.....
- Batch:.....
- Roll No.....
- Regd no.....
- Subject.....
- Cell no.....
- e-mail address.....
- Date of Submission.....
- Signature of Candidate.....