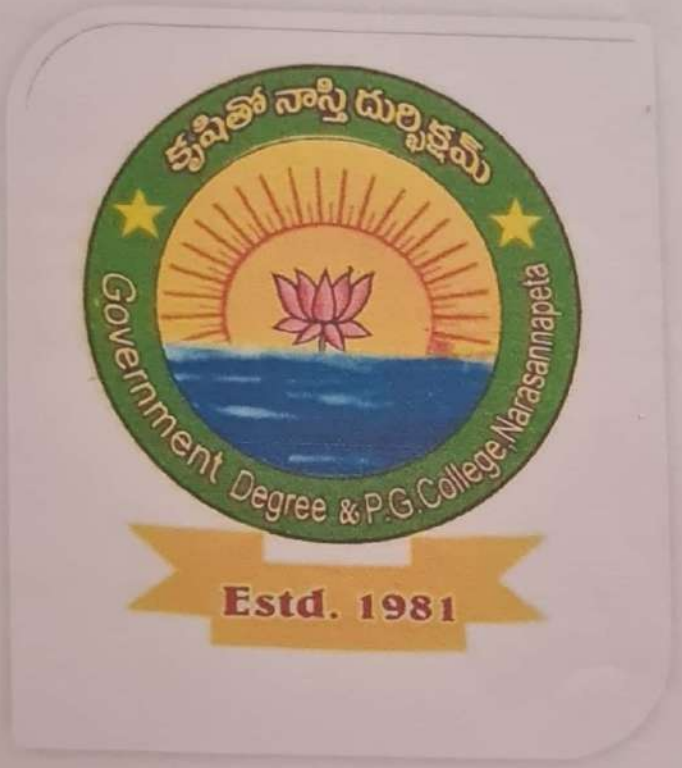
CERTIFICATE COURSE

ON

BASIC CONCEPTS OF SOLID GEOMETRY



GOVT.DEGREE COLLEGE NARASANNAPETA

SRIKAKULAM DISTRICT

DEPARTMENT OF MATHEMATICS

2021-2022

From

M. HARIKA

Dept. of Mathematics

GDC, Narasannapeta

To

The Principal

Govt. Degree College

Narasannapeta

PRINCIPAL
GOVT. DEGREE COLLEGE
NARASANNAPETA

Sub: Regarding to start certificate course on Basic concepts of Solid Geometry.

Respected Sir/Madam

I am M.Harika working as contract faculty in the Department of Mathematics in our College. This is regarding with conduct subject related certificate course introducing for students benefits of our department on "Basic concepts of Solid Geometry". The course duration should be 08 days. We are going to start in the academic year 2021-2022. i.e. from ;20-06-2022 to 09-07-2022.So thismy humble request you to permit us for the estabhlishment of above course.

Thanking you Sir/Madam.

Your 's Sincerely

1. M. Harika

2. A. Pavi

GOVERNMENT DEGREE COLLEGE, NARASANNAPETA

DEPARTMENT OF MATHEMATICS

SUBJECT RELATED CERTIFICATE COURSE ON 2021-2022

The faculty members of the Mathematics Department met in the Principal's chamber to discuss and review the conduct of the Certificate Course titled **BASIC CONCEPTS OF MATHEMATICS IN SOLID GEOMETRY** under the Chairmanship of the Principal and the faculty of the Department of Mathematics on 16-06-2022.

AGENDA:

Starting of Certificate Course for I B.SC (M.P.C &M.P.Cs) Students (II Semester).

RESOLUTIONS:

1. It is resolved to start the Certificate Course titled Basic Concepts of Solid Geometry from 20-06-2022 to 9-07-2022 (20 days).for the academic year 2021-2022.
2. It is also resolved to frame the syllabus , regulations for the successful completion of the Certificate course titled " BASIC CONCEPTS OF SOLID GEOMETRY".
3. Enrolled 10 students in this Certificate course.
4. Resolved to conduct classes at 4.30pm.
5. Resolved to conduct exam of completion of the course and issue certificates to qualified candidates.
6. Qualifying marks in 40%

Members Present :

1 .M. HARIKA
2 .A. PAVITHRA

Signature

LECTURER
Govt. Degree College
(M. HARIKA)
NARASANNAPETA

CIRCULAR

DATE :16-06-2022.

This is to inform that the Department of Mathematics is going to be conducted a subject related Certificate Course from 20-06-2022 to 09-07-2022 for I year students of B.SC (M.P.C&M.P.Cs) on " **BASIC CONCEPTS OF SOLID GEOMETRY** ". The students who are interested can enroll their names to concerned Department on are before 19-06-2022.The duration of the course is 30 hours. The candidates who secure 40% of the marks in the examination will get the Certificate.

Signature

1.
2.

Contract Lecturer in Mathematics

Department of Mathematics

GOVERNMENT DEGREE COLLEGE, NARASANNAPETA
SRIKAKULAM DISTRICT
DEPARTMENT OF MATHEMATICS

SUBJECT RELATED CERTIFICATE COURSE-2020-2021

TOPIC : BASIC CONCEPTS OF SOLID GEOMETRY

ENROLLED STUDENTS LIST

S.NO	GROUP	HALL TICKET NUMBER	NAME OF THE STUDENT
1	B.SC (M.P.C)	2122004052003	B. ROSHINI
2	B.SC (M.P.C)	2122004052009	D.SAIKUMAR
3	B.SC (M.P.C)	2122004052014	K.GANESH
4	B.SC (M.P.C)	2122004052016	K.SUVARNA
5	B.SC (M.P.C)	2122004052017	K.MEGHANA
6	B.SC (M.P.C)	2122004052018	K.LALITHA
7	B.SC (M.P.C)	2122004052028	P.GAYATHRI
8	B.SC (M.P.Cs)	2122004050019	L.PAVANKUMAR
9	B.SC (M.P.Cs)	2122004050023	P.KUSUMAKUMARI
10	B.SC(M.P.Cs)	2122004050006	B.GEETHIKA

Signature

1

2

GOVERNMENT DEGREE COLLEGE , NARASANNAPETA

DEPARTMENT OF MATHEMATICS

SUBJECT RELATED CERTIFICATECOURSE -2021-2022

BASIC CONCEPTS OF SOLID GEOMETRY

REPORT :

As a part of academic activity ,the Department of Mathematics has conducted Certificate Course in "BASIC CONCEPTS OF SOLID GEOMETRY" from 20-06-2022 to 09-07-2022 for the academic year 2021-2022.The important objective of the course is to improve basic knowledge in Mathematics among the UG degree students. As per the instructions given by the Principal during the minutes of the meeting 10 members of students are enrolled into the Certificate Course for I year B.SC (M.P.C&M.P.Cs) to enrich the concepts the solid geometry, the Mathematics faculty members have engaged classes 8 days and depth the basic concepts of the subject . At the end of the course , an external examination with fill in the blanks and multiple choice questions has conducted for the assessment of learners understanding levels of knowledge .The minimum qualifying of marks for the award of certification is 40%.All the students completed the course successfully and got certificates during the academic year 2021-2022.

GOVERNMENT DEGREE COLLEGE, NARASANNAPETA
SRIKAKULAM DISTRICT
DEPARTMENT OF MATHEMATICS
SUBJECT RELATED CERTIFICATE COURSE-2021-2022
TOPIC: BASIC CONCEPTS OF SOLID GEOMETRY

Objective of the Course :

The course will deal especially limited section of specific topics included in the CBSE XI &XII Mathematics curricular, topics to be discussed are those which involve basic concepts and formulas, and which therefore have wide applicability. These are also the topics that are conceptual the deepest and must therefore be understood as clearly as possible this will be the overall objective of the course.

Course Duration : 20 days.

Level : UG

Course type : Scheduled

Certification : certification will be given on the continuous comprehensive evaluation of Students performance in the learning activities.

SYLLABUS OF THE COURSE

CONCEP T I : (5 DAYS)

INTRODUCTION : What is Co-Ordinate Geometry ?

TOPICS : * Coordinates of a points in space

* Revision of Concepts learnt in earlier classes (2 D)

CONCEPT II : (5 DAYS)

THE PLANE :

- Equation of the plane in terms of its intercepts on the axis,
- System of planes
- *Joint equation of pair of planes and solving problems*

CONCEPT III : (5 DAYS)

THE LINE :

- Equations of a line
- Angle between line and plane
- Conditions for a line to lie in a plane and illustrations

CONCEPT IV : (5 DAYS)

THE SPHERE :

- Definition and equation of the Sphere
- Plane section of a sphere
- Intersection of two Spheres and examples.

GOVERNMENT DEGREE COLLEGE, NARASANNAPETA

DEPARTMENT OF MATHEMATICS

SUBJECT RELATED CERTIFICATE COURSE -2021-2022

TOPIC : BASIC CONCPTS OF SOLID GEOMETRY

STUDENTS ATTENDENCE LIST

S.No	Group	Hall ticket number	Name of the student	20-06-2022	21-06-2022	22-06-2022	23-06-2022	24-06-2022	25-06-2022	26-06-2022	27-06-2022	28-06-2022	29-06-2022	30-06-2022	01-07-2022	02-07-2022	03-07-2022	04-07-2022	05-07-2022	06-07-2022	07-07-2022	08-07-2022	09-07-2022
1	B.SC(MPC)	2122004052003	B.ROSHINI	P	P	P	P	P	P	a	P	P	P	P	P	P	P	P	P	P	P	P	P
2	B.SC(MPC)	2122004052009	D.SAIKUMAR	P	P	P	P	P	P	P	P	P	P	P	P	a	P	P	P	P	P	P	P
3	B.SC(MPC)	2122004052014	K.GANESH	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	a	P	P	P
4	B.SC(MPC)	2122004052016	K.SUVARNA	P	P	a	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
5	B.SC(MPC)	2122004052017	K.MEGHANA	P	P	P	P	P	P	P	P	P	a	P	P	P	P	P	P	P	P	P	P
6	B.SC(MPC)	2122004052018	K.LALITHA	P	P	P	P	P	P	P	P	P	P	P	P	P	a	P	P	P	P	P	P
7	B.SC(MPC)	2122004052028	P.GAYATRI	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	a		P	P	P
8	B.SC(MPC'S)	2122004050019	L.PAVANKUMAR	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	a	P	P	P
9	B.SC(MPC'S)	2122004050023	P.KUSUMAKUMARI	P	P	P	P	a	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
10	B.SC(MPC'S)	2122004050006	B.GEETHIKA	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	a	P

Govt. Degree College
NARASANNAPETA

GOVERNMENT DEGREE COLLEGE, NARASANNAPETA

DEPARTMENT OF MATHEMATICS

SUBJECT RELATED CERTIFICATE COURSE-2021-2022

SUBJECT : BASIC CONCEPTS OF SOLID GEOMETRY

QUESTION PAPER **MARKS: 50**

I. Fill in the Blanks. 5x2=10

1. The direction cosines of the normal to the plane $x - 2y + 2z = 1$ are ----------.
2. The radius of the sphere $x^2 + y^2 + z^2 - 4x + 6y - 2z + 5 = 0$ is----------.
3. Equation of the Sphere passing through (0,0,0),(1,0,0),(0,1,0),(0,0,1) is ----------.
4. The equation of the tangent plane to $3x^2 - 4y^2 = 2z$ at (2,-1,4) is ----------.
5. The equation of the sphere with centre at (2,-3,4) and radius 5 is----------.

II. Put a Tick mark on the Correct Answer. 20x2=40

1. Equation of the x-axis is [ ]
   (a) x=0 (b) y+z =0 (c) y=0 , z=0
2. The equation of the plane passing through (2,-1,3) and parallel to the plane 3x-4y+7z =0 is [ ]
   (a) 4x-3y+7z =32 (b) 3x-4y+7z =23 (c) 3x-4y+7z = 31
3. ax+by+cz = 0 is parallel [ ]
   (a) x=0 (b) by= cz (c) none of (a) and (b)
4. $x^2 + y^2 = 9 - z^2$ is parallel to [ ]
   (a) sphere (b) a pair of planes (c) none of (a) and (b)
5. The interior of the sphere $x^2 + y^2 + z^2 = 12$ is [ ]
   (a) (4,0,0) (b) (1,1,2) (c) (1,2,3)
6. by+cz+d = 0 is perpendicular to [ ]
   (a) by=cz (b) x=0 (c) by+cz=0
7. The radius of the sphere $x^2 + y^2 + z^2 - ax - by - cz = 0$ [ ]
   (a) $\frac{a+b+c}{4}$ (b) $\frac{\sqrt{a}}{2} + \frac{\sqrt{b}}{2} + \frac{\sqrt{c}}{2}$ (c) $\frac{\sqrt{a^2+b^2+c^2}}{2}$
8. If a_1, b_1, c_1 and a_2, b_2, c_2 are the direction ratios of the lines which are parallel, then [ ]
   (a) $a_1 = a_2$, $b_1 = b_2$, $c_1 = c_2$ (b) $\frac{a_1}{a_2} = \frac{b_1}{b_2} = \frac{c_1}{c_2}$ (c) $a_1 a_2 + b_1 b_2 + c_1 c_2 = 0$

9. The direction cosines of a line equally inclines to the axes are [ ]

(a) 1,1, 1 (b) $\frac{1}{\sqrt{3}}, \frac{1}{\sqrt{3}}, \frac{1}{\sqrt{3}}$ (c) $\frac{1}{\sqrt{2}}, \frac{1}{\sqrt{2}}, \frac{1}{\sqrt{2}}$

10. The angle between the lines ,whose direction ratios are 1,1,2 and $\sqrt{3}-1, -\sqrt{3}-1, 1$, is [ ]

(a) 30^0 (b) 90^0 (c) 60^0

11. The equation of the xoy plane ,is [ ]

(a) z=0 (b) x=0 (c) y=0

12. T he angle between the planes 2x+y+z=6, x-y+2z=3, is [ ]

(a) $\frac{\pi}{3}$ (b) $\frac{\pi}{2}$ (c) $\frac{\pi}{4}$

13. The straight lines $\frac{x-2}{3} = \frac{y-5}{4} = \frac{z-7}{2}$ and $\frac{x-4}{-2} = \frac{y-5}{3} = \frac{z-9}{-2}$, represents [ ]

(a) parallel lines (b)different lines (c) perpendicular lines

14. The direction cosines of the line joining the points (4,3,-5) and (-2.1.-8) are [ ]

(a)2,4,-13 (b) 6,2,3 (c) $\frac{6}{7}, \frac{2}{7}, \frac{3}{7}$

15. The direction cosines of the normal to the plane 2x-3y+6z=7 , are [ ]

(a) $\frac{1}{3}, \frac{2}{3}, \frac{3}{3}$ (b) $\frac{2}{7}, \frac{-3}{7}, \frac{6}{7}$ (c) 2,-3,6

16. The angle between the planes 3x-4y+5z=0, 2x-y-2z=5 is [ ]

(a) $\frac{\pi}{3}$ (b) $\frac{\pi}{2}$ (c) $\frac{\pi}{6}$

17. The line $\frac{x-\alpha}{l} = \frac{y-\beta}{m} = \frac{z-\gamma}{n}$ is perpendicular to [ ]

(a) x-axis (b) y-axis (c) z-axis

The straight lines $\frac{x-2}{3} = \frac{y-3}{4} = \frac{z-4}{5}$ is [ ]

(a) parallel to (b) perpendicular to (c) lying in the plane $2x+y-2z=3$.

The foot of the perpendicular from (3,-1, 11) to the line $\frac{x}{1} = \frac{y-2}{1} = \frac{z-3}{1}$, is [ ]