GOVERNMENT DEGREE COLLEGE SHADNAGAR
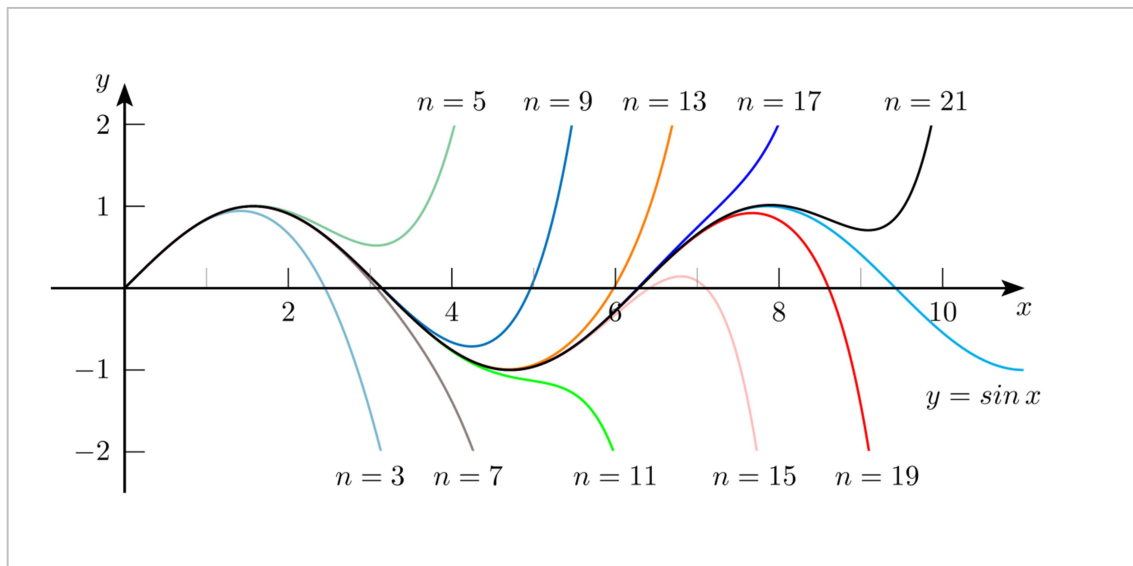
Ranga Reddy – Dist

Department of Mathematics

STUDY PROJECT – 2021 – 22

On

"Taylor's Series"

Government Degree College - Shadnagar

Ranga Reddy (Dist)

Student Study Project

on

"Taylor's Series"

Sl.No	Roll No	Name of the Student	Group
1	20033067441001	B.M.F.Gagan	M.P.C
2	20033067441002	D. Mounika	M.P.C
3	20033067441004	K. Nandini	M.P.C
4	20033067441005	P. Akhila	M.P.C
5	20033067468001	A. Sravani	M.P.Cs
6	20033067468004	P. Samuel	M.P.Cs

Supervisor

T. Sri Krishna

Department of Mathematics

GDC - Shadnagar

Principal

GDC - Shadnagar
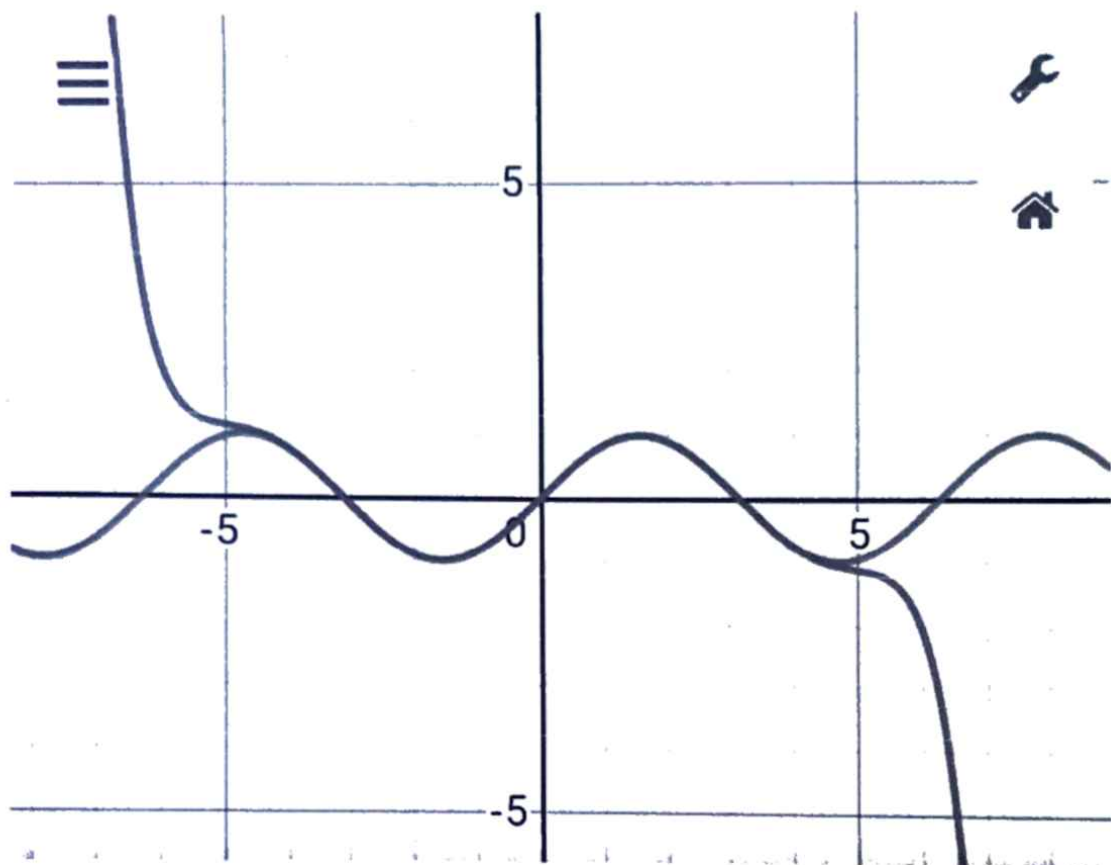
Government Degeer College Shadnagar

Ranga Reddy (Dist)

Certificate

This is to certify that BSc (MPC & MPCs) SEM III students has successfully completed a Study Project on **"Taylor's Series "** for the academic year 2021 - 22 under the Supervision of **T. Sri Krishna, Department of Mathematics.**

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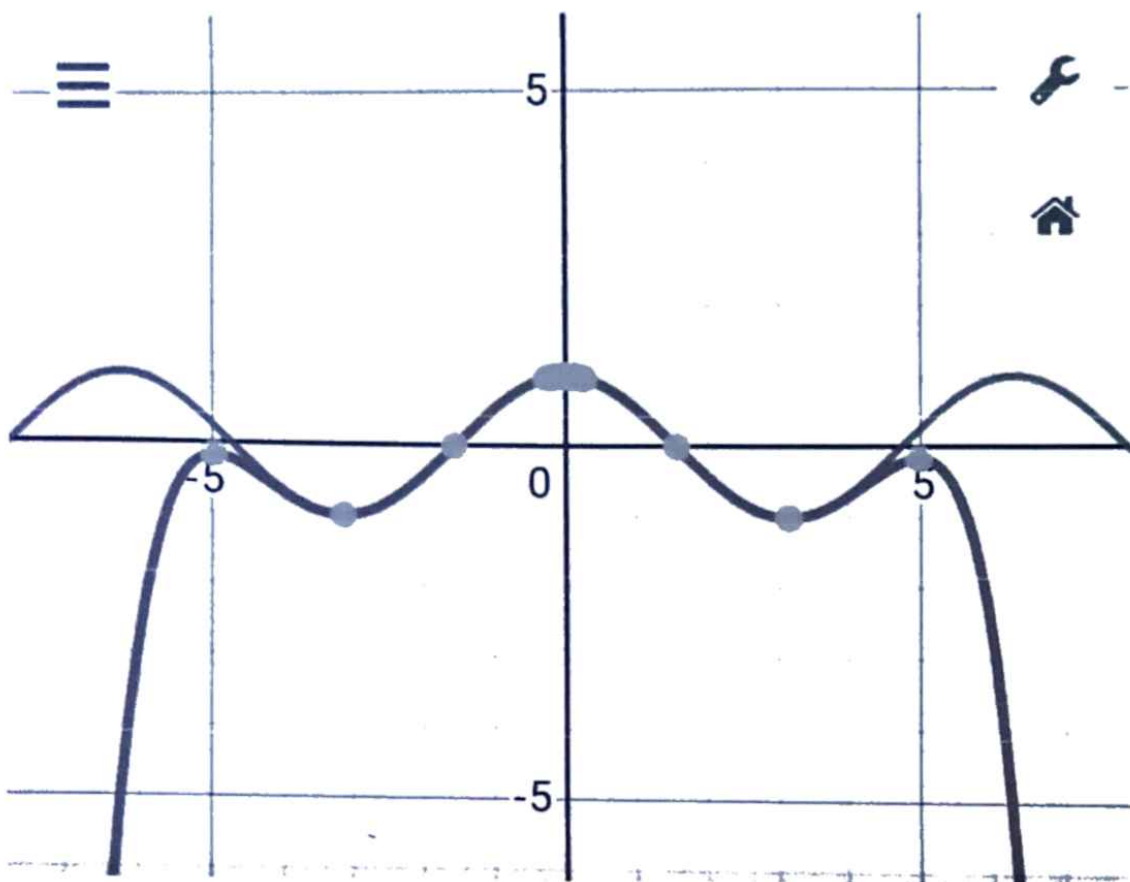Hence it is certified

Principal

GDC, Shadnagar

1
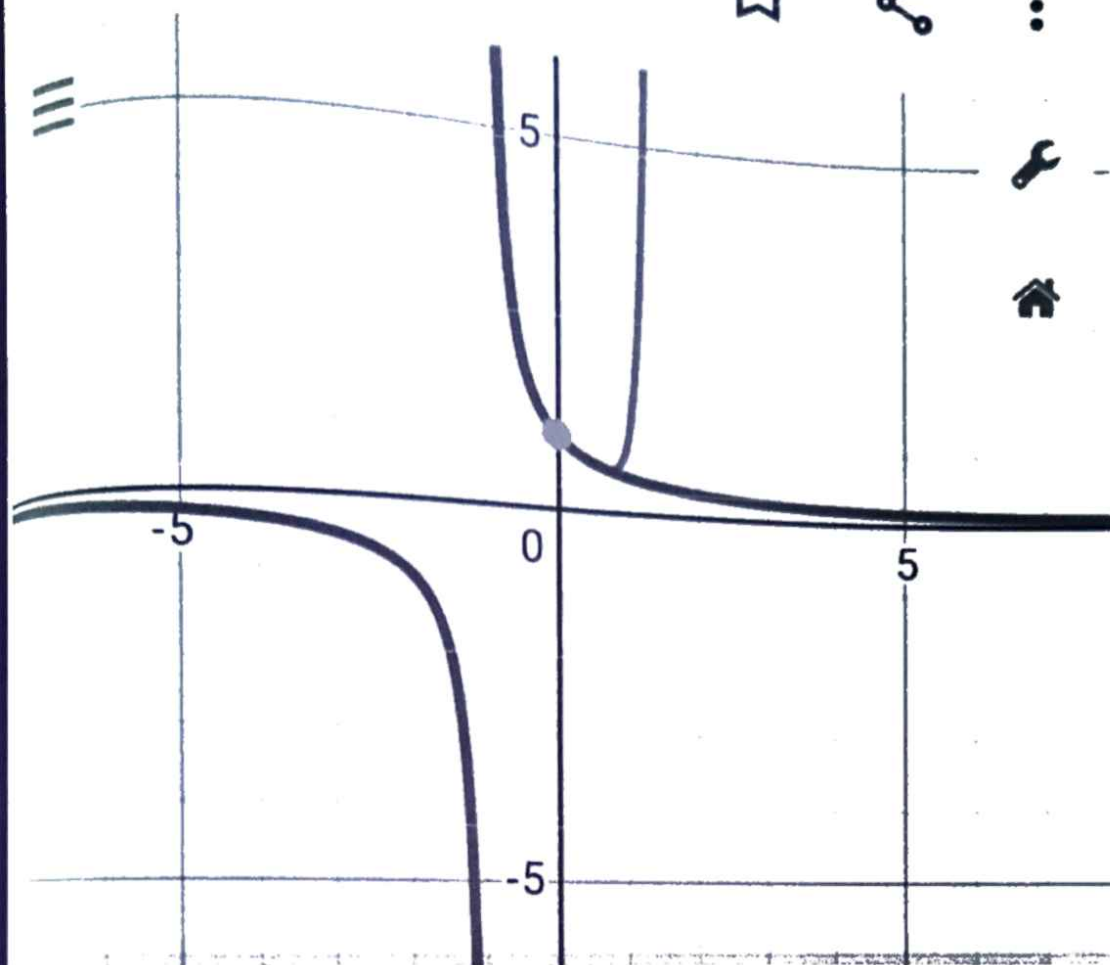$$f(x) = \sin x \quad \text{(Tayeler's series)}$$

2
$$x - \frac{x^3}{3!} + \frac{x^5}{5!} - \frac{x^7}{7!} + \frac{x^9}{9!} - \frac{x}{1}$$
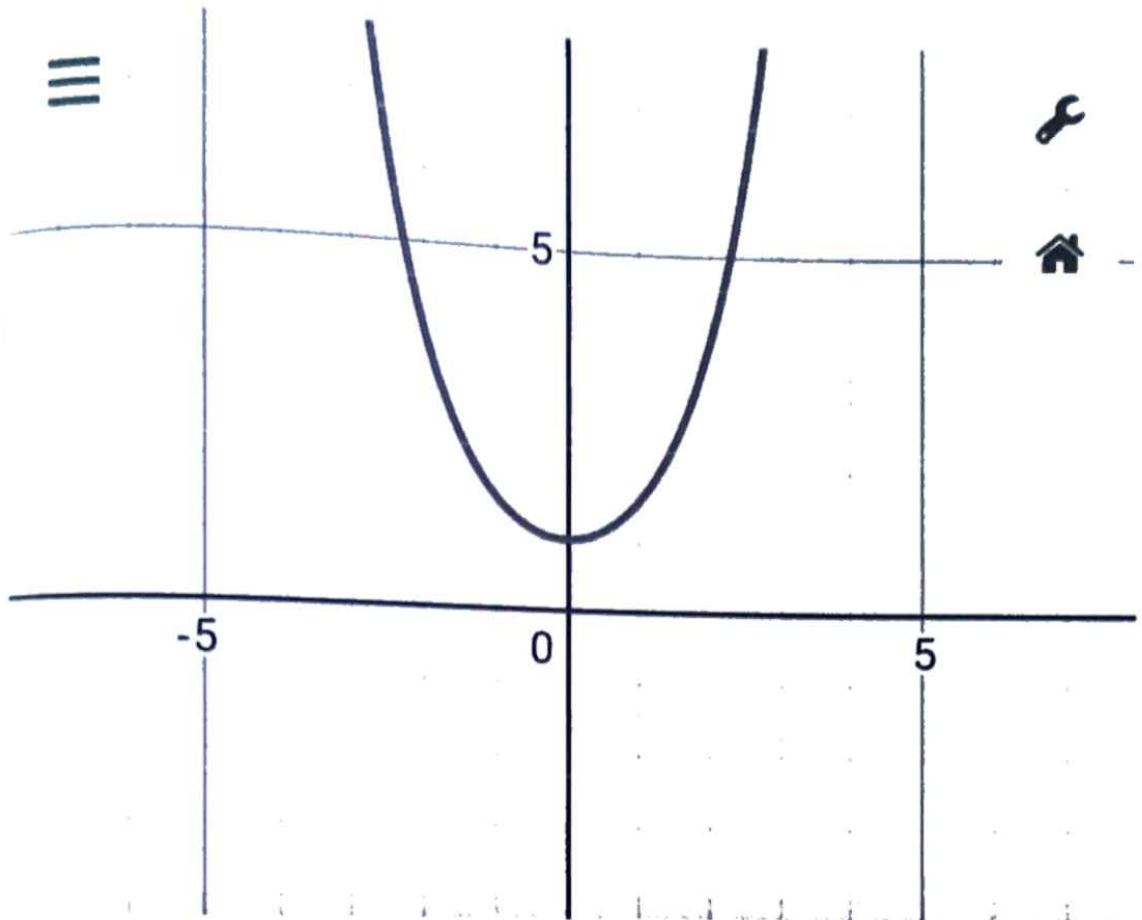
1 〰 $f(x) = \cos x$ [Tayeler's series] ✕

2 〰 $1 - \dfrac{x^2}{2!} + \dfrac{x^4}{4!} - \dfrac{x^6}{6!} + \dfrac{x^8}{8!} - \dfrac{x}{1(}$ ✕

5

-5

0

5

-5

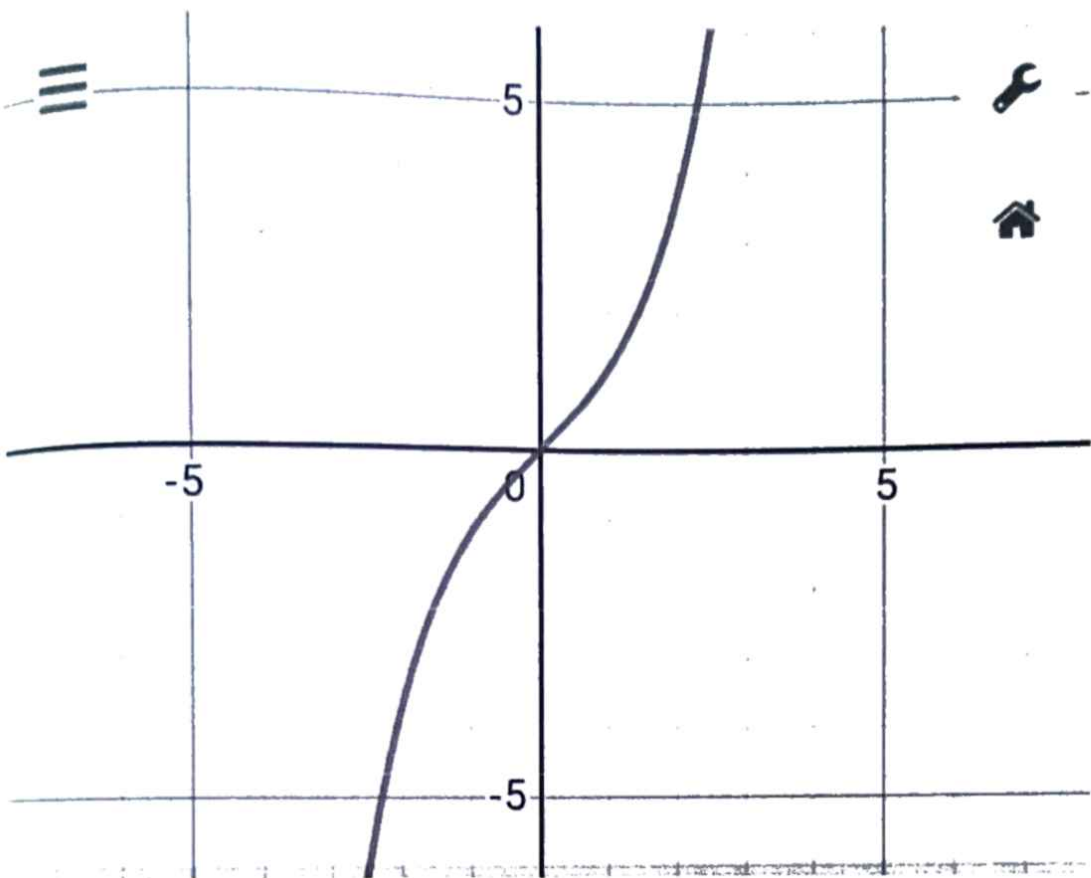$$f(x) = \frac{1}{1+x}.$$ Tayelor's series :-

$$1 - x + x^2 - x^3 + x^4 - x^5 + x^6$$

$f(x) = \cosh x$ ᴛᴏ Tayeler's series ✗

$$1 + \frac{x^2}{2!} + \frac{x^4}{4!} + \frac{x^6}{6!} + \frac{x^8}{8!} + \frac{x^{!}}{1(}$$

$$f(x) = \sinh x \left(\frac{e^x - e^{-x}}{2} \right)$$

[Tayeler's series]

$$x + \frac{x^3}{3!} + \frac{x^5}{5!} + \frac{x^7}{7!} + \frac{x^9}{9!} + \frac{x}{1}$$