K26FY0752 Pages: 2 Reg No:.....
Name:.....

Fourth Semester FYUGP Degree (Reg) Examination April 2026

KU4SECMAT201 - GEOGEBRA-BASED MATHEMATICAL VISUALISATIONS AND APPLICATIONS

2024 Admission onwards

Time : 1.5 hours Maximum Marks : 35

Section A

Answer any 6 questions. Each carry 2 marks.

1. Which tool helps you find the midpoint of a segment?
2. What is the difference between a Line Tool and a Segment Tool?
3. Write two examples for exponential function.
4. What are the basic interfaces of Geogebra?
5. Write the GeoGebra command to find maximum or minimum of a function.
6. What is an interactive math applet?
7. Which tool is used to create a surface of revolution?
8. If you want to create a line perfectly 90 degrees to an existing segment, which specific tool must you select, and what two objects must you click?

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Section B

Answer any 4 questions. Each carry 4 marks.

9. Explain the steps involved in graphing $y = x^2$,labelling the curve and colouring it.
10. Explain how to construct a cone in GeoGebra 3D view.
11. Discuss the steps involved in graphing a circle using parametric equations.
12. Explain the steps involved in graphing the curves $y = x^2$ and $y = x$, finding the point of intersection and then drawing a tangent at the point of intersection.
13. What are the commands or tools used to find the left Riemann sum, right Riemann sum and the midpoint Riemann sum for a function in GeoGebra?
14. Explain how sliders can be used to study the effect of coefficients in a quadratic function.

Section C

Answer any 1 questions. Each carry 7 marks.

15. Explain any seven basic construction tools available in GeoGebra. Describe the purpose of each tool with suitable examples.

16. Explain the graphing of the function $f(x) = ax^2 + bx + c$, by creating sliders for a, b, c in GeoGebra. Discuss the effect of each parameter on the graph.

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