

Key Answers-Final Exam

January 16, 2025

Task 1 : (06 Marks)- True or False ?

1. Applied mathematics focuses on solving real-world problems using mathematical models and techniques.True..... (0.5 Mark)
2. Applied mathematics is deeply connected to disciplines like physics, engineering, and economics.False..... (0.5 Mark)
3. Numerical methods are a branch of applied mathematics.True..... (0.5 Mark)
4. The study of differential equations is a significant part of applied mathematics. False..... (0.5 Mark)
5. Optimization problems in applied mathematics often aim to maximize or minimize a specific quantity.True..... (0.5 Mark)
6. Probability theory and statistics are unrelated to applied mathematics.False..... (0.5 Mark)
7. The Fourier transform is widely used in applied mathematics for signal analysis. True..... (0.5 Mark)
8. The use of applied mathematics is limited to natural sciences like physics and chemistry.False..... (0.5 Mark)
9. Operations research is not an essential area of applied mathematics.False..... (0.5 Mark)
10. Linear algebra is widely applied in solving systems of equations in applied mathematics.True..... (0.5 Mark)
11. Applied mathematics deals exclusively with theoretical concepts and does not involve practical applications. False..... (0.5 Mark)
12. Approximations and simulations are common in applied mathematics to handle complex problems.True..... (0.5 Mark)

Task 2 : (02 Marks)

Passage : In the world of mathematics, there are different paths students can take, whether that is choosing pure mathematics or applied mathematics. What is the difference between pure math and applied math? While pure math focuses on studying or working in the field of theoretical or abstract mathematics to further mathematical knowledge, applied mathematics involves the application of mathematical methods in various fields, such as physics, computer science, engineering, business, biology, information technology, and more. What does the word "various" mean in the context of the above passage?

The answer to the question is b) Different, since "various" refers to a range of different fields in which applied mathematics can be used. (02 Marks)

Task 3 :(05 Marks)

The answers to the fill-in-the-blank questions :

Artificial Intelligence	Social sciences	Khan Academy	History
OpenAI	Language studies	Microsoft Math Solver	ChatGPT
Duolingo	Business	Photomath	Literature

1. ChatGPT is a language model based on artificial intelligence, developed by OpenAI..... (0.5 Mark)
2. MLA Format (Modern Language Association) used primarily in the humanities, especially literature and language studies..... (0.5 Mark)
3. Photomath is used to read mathematical problems using pictures and provides step-by-step explanations of the solutions..... (0.5 Mark)
4. Chicago Style used for a wide range of subjects, especially in history and business..... (0.5 Mark)
5. Duolingo uses technology to provide answers and explanations on academic topics..... (0.5 Mark)
6. Artificial intelligence is a branch of computer science that focuses on developing systems capable of simulating human intelligence..... (0.5 Mark)
7. Khan Academy enhances the learning experience by providing simplified explanations and interactive tools to support students in real time..... (0.5 Mark)
8. APA Format (American Psychological Association) used in the social sciences..... (0.5 Mark)
9. Microsoft Math Solver answers mathematical questions posed by the user in detail..... (0.5 Mark)
10. ChatGPT can be applied in several areas of applied mathematics..... (0.5 Mark)

Task 4 :(02 Marks)

The appropriate answer should relate to the context.

Hello everyone, my name is, and I am.....I recently My focus has been on For example, I What excites me most about this opportunity is I am particularly passionate about, and I enjoy collaborating with others to I am really looking forward to learning from all of you and contributing to the team..... (02 Marks)

Best regards.

"Mathematics is the most beautiful and most powerful creation of the human spirit." -
Stefan Banach, Polish mathematician