

نام درس: زبان تخصصی
رشته تحصیلی و کد درس: ریاضی (کاربردی - محض) ۱۱۱۱۰۵۸ - آموزش ریاضی ۱۱۱۱۲۹۰
تعداد سؤالات: تستی: ۲۰ تشریحی: ۳
زمان آزمون: تستی: ۳۰ تشریحی: ۶۰ دقیقه
کد سری سؤال: یک (۱)
استفاده از: —
مجاز است.

امام علی^(ع): برتری مردم به یکدیگر، به دانش‌ها و خرده‌هاست؛ نه به ثروت‌ها و تبارها.

- To change the units of a quantity is called: to
a. transform b. convert c. picture d. project
- Boundary condition: refers to a condition imposed an equation so as to get the desired particular solution. This is often called...
a. local condition b. initial condition c. global value d. initial variable
- An upper bound of a set of numbers is a number which isor equal to every member of the set.
a. less than b. equal c. greater than d. faraway
- Which of the following words refers to the term of an arithmetic progression lie between any three consecutive terms?
a. arithmetic value b. arithmetic mean
c. mean - value d. mid-term
- In mathematics, a description of a new term by accepted, or undefined, terms and previously defined ones is called.....
a. lemma b. theorem c. definition d. solution
- Determinants are important in the study of vectors. The rows of a determinant can be viewed as.....
a. points b. vectors c. arrows d. sets
- A plane curve consisting of all points at a given distance from a given point is called.....
a. diameter b. colinear c. rectangle d. circle
- The length of an ellipse is called its.....
a. diameter b. axes c. circumference d. ellipsoid
- The ratio of any two integers is called a/an.....
a. quarter b. fraction c. friction d. option

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10. There is a one – to- one correspondence between the points on the real line and allnumbers.
- a. complex b. irrational c. real d. natural
11. A collection of non - empty subsets of a set A whose union is A and no two of them overlaped, is called a/an.....
- a. family b. category c. partition d. adjoint
12. Any complex number consists of two parts : real part and.....part.
- a. non- real b. integer c. imaginary d. compulsory
13. Let A and B be two sets. The set of all pairs (a, b), where $a \in A$, $b \in B$ is called.....
- a. product of A and B b. direct product of A and B
- c. cartesian product of A and B d. the sum of A and B
14. Any point of the interval [a,b], other than a and b, is called a/an.....point.
- a. neighborhood b. interior c. exterior d. accumulation
15. Omar Khayam attempted to classify all.up to the fourth degree.
- a. terms b. coefficients c. zeros d. equations
16. According to the text , the formula derived for the area for quadrilateral inscribed in a circle obtained by.....
- a. Heron b. Biruni c. Khawrizmi d. Omar Khayam
- 17.The Combinatorial mathematics is a branch of mathematics which is dealing withcombination of finite number of objects.
- a. different b. same c. infinite d. union
- 18.Statistics is the science of considering , collecting and interpreting.....
- a. numbers b. qualities c. numericals d. data
- 19.Statistics is mostly deals with values.
- a. numbers b. quality c. numerical d. local
20. The process of deriving derivative from a function is called.....
- a. differential b. derivation c. differentiation d. differentials

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سوالات تشریحی (بارم کلاً ۱۰ نمره)

متن زیر را به فارسی روان ترجمه کنید.

1. AIMS AND OBJECTIVES

After studying this unit you will be able to apply the results of elementary calculus to functions of several variables though in a restricted sense. If a function is defined in a neighbourhood of a point a in R^n , we can restrict the function to a 'line' passing through a and can study it using the techniques and theorems of elementary differential calculus. You will also learn how to unify the study in several directions into one coherent picture (if such a picture is available). There are extensions for the chain rule, Taylor's formula and also a discussion of extrema of functions.

2. INTRODUCTION

There are some resemblances and some differences between calculus of one variable and calculus of several variables. While derivability implies continuity in the one variable calculus, the existence of all directional derivatives is not enough to ensure continuity in the several variable case. Some way of unifying all the directional derivatives and perhaps more is needed. The concept of differentiability fills in the need and is high lighted in this unit.

3. PARTIAL CALCULUS

Let n be a positive integer. By the Euclidean space of dimension n we mean the Cartesian product $R \times R \times \dots \times R$ of n copies of the real number system R . This is denoted by R^n . A point of R^n is an ordered n -tuple (a_1, \dots, a_n) of real numbers. The r th entry in the above n -tuple is called the r th co-ordinate or component of the point $a = (a_1, \dots, a_n)$. It is convenient to define addition of these points by.

$$a + b = (a_1, \dots, a_n) + (b_1, \dots, b_n) = (a_1 + b_1, a_2 + b_2, \dots, a_n + b_n)$$