Prof. Dr. Burak POLAT **14.04.2008**
Res. Asst. Ömer ZOR

MATHEMATICS DEPARTMENT
MAT2020 Technical English I Midterm Exam
*Total time**: 90 min.***
(Please pick any 100 pts. out of 110 pts. available)

I. Write down the pronounciation of the following mathematical expressions. **(3 pts. each)**

$$\sum_{i=0}^{\infty}\frac{1}{2^i}=2, \qquad \iiint_V \nabla\cdot\vec{A}dV=\oiint_{S=\partial V}\vec{A}\cdot d\vec{S}, \qquad \frac{df}{dx}=\lim_{\Delta x\to 0}\frac{f(x+\Delta x)-f(x)}{\Delta x},$$

$$y(x)=[\ln(x)+\sin(x)+\cosh(x)]e^{-x}, \qquad A\cup(B\cap C)=(A\cup B)\cap(A\cup C)$$

II. Translate any <u>two</u> of the following literal expressions into Turkish. **(5pts. each)**

- Rational numbers constitute all positive and negative fractions, including integers and so-called improper fractions. Formally, rational numbers are the set of real numbers that can be written as a ratio of integers with nonzero denominator.
- Algebraic numbers constitute the real numbers that can occur as roots of polynomial equations that have integer coefficients. For example, all rational numbers are algebraic. Transcendental numbers are real numbers that are not algebraic.
- The fundamental theorem of arithmetic asserts that prime factorizations are unique. That is, if you have found a prime factorization for a positive integer then you have found the only such factorization.
- A prime number is a positive integer which has only 1 and the number itself as factors. For example, 2,3,5,7,11,13, etc. are all primes. By convention, the number 1 is not prime. A composite number is a positive integer that has factors other than just 1 and the number itself. For example, 4,6,8,9,10,12, etc. are all composite numbers. The number 1 is not composite.

III. Translate only <u>one</u> of the following literal expression into Turkish. **(5 pts.)**

- 
  Congruent means exactly equal in size and shape. Congruent sides or segments have the exact same length. Congruent angles have the same exact measure. The marked angles of this isosceles triangle are congruent to each other.
- A polygon is a closed plane figure for which all sides are line segments. The name of a polygon describes the number of sides. A polygon which has all sides mutually congruent and all angles mutually congruent is called a regular polygon.

IV. A polygon with n sides is called an n-gon. For example,

a 3-gon is another name for _____ .
a 4-gon is another name for _____ .
a 5-gon is another name for _____ .
a 6-gon is another name for _____ .
a 7-gon is another name for _____ . **(2 pts. each)**

V. Give the names for the following letters from the Greek Alphabet. **(2 pts. each)**

ξ:_____ η:_____ ζ:_____ ψ:_____

χ:_____ μ:_____ Ω:_____ Σ:_____

Γ:_____ λ:_____

VI. Dissect any 15 of the following words of Greek origin into prefix, root and suffix components; give the meaning of each one seperately, and integrate to constitute the overall meaning of the word. **(2 pts. each)**

anthropology, philanthropist, monarchy, archeologist, architect, chronometer, anachronism, democracy, demagogue, endemic, pandemic, epidemic, paradox, thermodynamics, endogamy, misogamist, congenital, psychogenic, hydroplane, ideology, zoology, microbe, megalomania, metamorphosis, anthropomorphism, neoplyte, neologism, astronomer, autonomy, pseudonym, synonym, antonym, acronym, patronym.

VII. Answer the following drill questions briefly from the story "A princess of Mars" by Edgar Rice Burroughs.

1) Describe the appearance of Defah Thoris. **(5 pts.)**
2) Describe the appearance and the talent of the ugly Woola **(5 pts.)**
3) What was Sola's great secret? **(5 pts.)**
4) What was the great danger facing the red planet? **(5 pts.)**