

大同大學 九十五 學年度研究所碩士在職班入學考試試題

考試科目：科技英文 所別：電機工程研究所 共 1 頁

註：本次考試 不可以參考自己的書籍及筆記； 不可以使用字典； 不可以使用計算器。

請將以下英文段落翻譯成中文

1. Communication is a main necessary of human nature. With respect to revolutionary developments in vehicular technology during this century a second important desire of mankind, namely the demand for mobility, could be satisfied. Now, these aspects of human life emerged into the desire for mobile communications leading to the dawning a new era. Presently, we experience a meteoric progress in design, standardization and implementation of most advanced mobile communications network. (20%)
2. Negative feedback is employed to make the amplifier gain less sensitive to component variations. The key feedback parameters are the loop gain ($A\beta$), which for negative feedback must be a positive dimensionless number, and the amount of feedback ($1+A\beta$). Stability is guaranteed if at the frequency for which $|A\beta|=1$, the phase angle is less than 180° ; the difference is the phase margin. (15%)
3. Computer vision is involved with the extraction of information from images, and in the identification and classification of objects in an image. Of course, there is an aspect of image processing in all computer vision systems, for images need to be enhanced to emphasize important features before the vision aspect can be performed. (15%)
4. Two sliding mode control techniques are applied to control an inverted pendulum system. The performance of both the continuous-time and discrete-time controllers is compared. Simulations and experimental results are shown, and the effectiveness of the proposed techniques is analyzed. (15%)
5. So from the above we can conclude that while current-mode control will ease many of the limitations of voltage-mode, it also contributes a new set of challenges to the designer. However, with the knowledge gained from more recent developments in power control technology, a re-evaluation of voltage-mode control indicated that there were alternative ways to correct its major weaknesses and the result was the chip of our company. (20%)
6. After observing the physical system, we need to identify the appropriate independent and dependent variables. Then we need to develop a mathematical description of how these variables interact. Often, a differential equation (along with appropriate initial conditions) will serve as a mathematical description of the system. (15%)

THE END