請將以下英文翻譯成中文

1. Behind all this success is the underlying fabric of the Internet: the Internet Protocol (IP). IP was designed to provide best-effort service for delivery of data packets and to run across virtually any network transmission media and system platform. The increasing popularity of IP has shifted the paradigm from "IP over everything," to "everything over IP." In order to manage the multitude of applications such as streaming video, Voice over IP (VoIP), e-commerce, Enterprise Resource Planning (ERP), and others, a network requires Quality of Service (QoS) in addition to best-effort service. **(20%)**

2. Output stages are classified according to the transistor conduction angle: class A (360°), class AB (slightly more than 180°), class B (180°), and class C (less than 180°). The class AB output stage is biased at a small current; thus both transistors conduct for small input signals, and crossover distortion is virtually eliminated. **(20%)**

3. Ideally, a manipulator should possess 6 degrees of freedom in order to manipulate an object freely in three-dimensional space. From this point of view, we call a robot a general-purpose robot if it possesses 6 degrees of freedom, a redundant robot if it possesses more than 6 degrees of freedom, and a deficient robot if it possesses less than 6 degrees of freedom. **(20%)**

4. An ideal boost converter includes an ideal voltage source, an ideal switch, an ideal diode, an ideal inductor, a capacitor, and a load resistor. The switch and voltage source provide current to charge the inductor with energy while the switch is closed. While the inductor is charging, the current in the load is supplied by the capacitor because the diode is reverse-biased. When the switch opens, the current in the inductor continues to flow, but now the inductor current forward biases the diode and flows through the load circuit. The voltage across the inductor reverses and adds to the voltage of the input supply. Therefore, the output of a boost converter is always greater than the input voltage. **(20%)**

5. Let $y_1(t)$ and $y_2(t)$ be any two solutions of $y'' + p(x)y' + q(x)y = 0$ defined on the interval $a < t < b$, where $p(t)$ and $q(t)$ are continuous on (a, b). Then, for any constants c_1 and c_2, the linear combination $y(t) = c_1 y_1(t) + c_2 y_2(t)$ is also a solution of this differential equation on the interval (a, b). **(20%)**

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