

科目：電子學 適用：生醫所醫工組

編號：532

考生注意：

1. 依次序作答，只要標明題號，不必抄題。
2. 答案必須寫在答案卷上，否則不予計分。
3. 限用藍、黑色筆作答；試題須隨卷繳回。

本 試 題

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1. For the circuit shown in Fig.1 using small signal analysis find:
 - (a) voltage gain(V_{out}/V_{in})(10%)
 - (b) output impedance(R_{out})(15%)
2. Calculate the gain without and with feedback for the JFET amplifier circuit of Fig.2 and the following circuit values: (25%)
 $R_1=20K\Omega, R_2=80K\Omega, R_o=10k\Omega, R_d=10K\Omega, C_d=10000 \mu F, g_m=4000 \mu mhos$
3. Draw and discuss the efficiency of power amplifier circuits indicated for the following operating condition.
 - (a) class A operation.(10%)
 - (b) class B operation.(15%)
4. An operational amplifier has a low-frequency gain of 100dB and a dominant pole at 1K rad/s. design and calculate the -3dB bandwidth of the configuration in two stages operational amplifier having the 60dB total gain with feedback using operational amplifier.(25%)

