

類 科：輪機技術
科 目：輔機
考試時間：2小時

座號：_____

※注意：(一)禁止使用電子計算器。

(二)不必抄題，作答時請將試題題號及答案依照順序寫在試卷上，於本試題上作答者，不予計分。

(三)本科目除專門名詞或數理公式外，應使用本國文字作答。

- 一、請說明「渦卷泵 (Volute pump)」及「渦輪泵 (Turbine pump)」之構造，及其工作原理之主要差異，並敘述渦卷泵及渦輪泵各屬於那一類之泵？(20分)
- 二、液壓換向閥較常見的有那四種控制裝置，請各別詳述其工作原理及優缺點。(20分)
- 三、請說明蒸發式 (Evaporative type) 造水機與急驟汽化式 (Flash type) 造水機之工作原理。(20分)
- 四、蒸汽渦輪機因異常情況，但尚未達到緊急停車程度時可以以自動減速手段改善此種異常情況。請說明自動減速之可能發生原因。(20分)
- 五、請將下列專業英文翻譯成中文。(20分)

Controllable pitch propellers are normally fitted to a flanged tail shaft as the operating mechanism is housed in the propeller boss. As its name implies, it is possible to alter the pitch of this type of propeller to change ship speed or to adjust to the prevailing resistance conditions. This change in pitch is effected by rotating the blades about their vertical axes, either by hydraulic or mechanical means. A shaft generator can be driven at constant speed while allowing at the same time a change of ship's speed through the propeller. Since it is normally possible to reverse the pitch completely, this type of propeller is used with a unidirectional engine to give full ahead or astern thrust, when maneuvering.