COMMONWEALTH PUBLIC SERVICE.
FOURTH DIVISION.

Examination No. 2586—22nd September, 1945, and subsequent dates.

FOR PROMOTION OR TRANSFER AS SENIOR TECHNICIAN.
TELEPHONE, POSTMASTER-GENERAL’S DEPARTMENT, ALL STATES.

WRITTEN EXAMINATION.

(c) Telephony II.

Time allowed: Three hours.

The candidate must answer not more than six questions; two of which shall be from Section I. and four from Section II.

Maximum marks—

<table>
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<tr>
<th>Section</th>
<th>Marks</th>
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<tr>
<td>Telephony I.</td>
<td>100</td>
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<td>Telephony II.</td>
<td>100</td>
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<tr>
<td>Pass Marks</td>
<td>120</td>
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<td>Total</td>
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SECTION I.

1. (a) What do you understand by the following terms:—
   Space charge,
   Amplification factor,
   Mutual conductance,
   Negative feedback.

(b) What are the advantages of negative feedback as applied to an amplifier?

2. You are required to measure the frequency-loss characteristics of a 3 Kc. high and low pass filter group. Describe the testing equipment you would require and give a diagram illustrating the test circuit you would employ. Describe the procedure of the tests and state what precautions would be necessary to ensure correct results.

[Turn over.]