

UNIVERSITIES OF MANCHESTER, LIVERPOOL,
LEEDS, SHEFFIELD AND BIRMINGHAM

Higher School Certificate Examination

BIOLOGY. PAPER I

PRINCIPAL SUBJECT.

MONDAY 4 JULY 1949, 2-5

Answer five questions.

Answers should be illustrated by sketches wherever possible.

Candidates should wherever possible show by their answers that they have seen or themselves performed experiments on the subjects they are discussing.

- ✓ 1. Write a short essay on 'The effects of gravity on plant growth'. Illustrate your answer by reference to any experiments which you have seen or performed.
- ✓ 2. Compare the methods by which a rapid increase in numbers can be brought about in Amoeba, a Rust fungus, Spirogyra, Taenia.
3. Describe how oxygen reaches a cell in (a) the muscle of a frog, (b) a filament of Spirogyra and (c) the cortex of the stem of a herbaceous dicotyledon.
4. **Either**, (a) Give an account of the vegetation of any area studied by you in the field. Choosing **either** mammals **or** birds, state the probable effects of excluding from the area the group you select.
- Or**, (b) Give an account of the vegetation of a marine area which you have studied and explain the effects of tides and exposure on its distribution.
- ✓ 5. Give an account of the process of photosynthesis.

83 PRIN. M

Turn over

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