

AUGUST 2007

NATIONAL CERTIFICATE

ENGINEERING SCIENCE N4

TIME: 3 HOURS

MARKS: 100

INSTRUCTIONS AND INFORMATION

1. Answer ALL the questions.
 2. Marks indicated are percentages obtainable.
 3. Questions may be answered in any order, but subsections of questions must be kept together.
 4. ALL formulae used must be written out.
 5. Show ALL the intermediate steps.
 6. Questions must be answered in blue or black ink.
 7. ALL the sketches and diagrams must be done in pencil in the answer book.
 8. $g = 9,8 \text{ m/s}^2$
-

QUESTION 1

- 1.1 Two aeroplanes leave an airport simultaneously. Aeroplane V flies north-west at 130 km/h and aeroplane W flies S 40° W at 175 km/h. Calculate the velocity of aeroplane W relative to the velocity of aeroplane V in magnitude and direction. (5)
- 1.2 A body is projected at such an angle that the horizontal displacement (range) is five times the maximum height reached. The initial velocity is 200 m/s. Calculate the angle of projection. (5)
- 1.3 An aeroplane can fly at 310 km/h in still air. Calculate how long does it take, in hours, to reach an airport 750 km to the south-west if a wind is blowing at 110 km/h from the west. (5)

Engineering Science N4 Questions Answers

S Ben Porath



Engineering Science N4 Questions Answers:

Internal Combustion Engineering: Science & Technology P.M. Weaving, 2012-12-06 Sir Diarmuid Downs CBE FEng FRS Engineering is about designing and making marketable artefacts The element of design is what principally distinguishes engineering from science The engineer is a creator He brings together knowledge and experience from a variety of sources to serve his ends producing goods of value to the individual and to the community An important source of information on which the engineer draws is the work of the scientist or the scientifically minded engineer The pure scientist is concerned with knowledge for its own sake and receives his greatest satisfaction if his experimental observations fit into an aesthetically satisfying theory The applied scientist or engineer is also concerned with theory but as a means to an end He tries to devise a theory which will encompass the known experimental facts both because an all embracing theory somehow serves as an extra validation of the facts and because the theory provides us with new leads to further fruitful experimental investigation I have laboured these perhaps rather obvious points because they are well exemplified in this present book The first internal combustion engines produced just over one hundred years ago were very simple the design being based on very limited experimental information The current engines are extremely complex and while the basic design of cylinder piston connecting rod and crankshaft has changed but little the overall performance in respect of specific power fuel economy pollution noise and cost has been absolutely transformed **Child Support Assurance Act of 1992** United States.

Congress. Senate. Committee on Labor and Human Resources. Subcommittee on Children, Family, Drugs and Alcoholism, 1992 Popular Science Monthly and World's Advance, 1916 **Popular Science Monthly**, 1916 **U.S.**

Environmental Protection Agency Library System Book Catalog Holdings as of July 1973 United States.

Environmental Protection Agency. Library Systems Branch, 1974 *Internal Combustion Engineering: Science & Technology* John H. Weaving, 1990-05-31 Sir Diarmuid Downs CBE FEng FRS Engineering is about designing and making marketable artefacts The element of design is what principally distinguishes engineering from science The engineer is a creator He brings together knowledge and experience from a variety of sources to serve his ends producing goods of value to the individual and to the community An important source of information on which the engineer draws is the work of the scientist or the scientifically minded engineer The pure scientist is concerned with knowledge for its own sake and receives his greatest satisfaction if his experimental observations fit into an aesthetically satisfying theory The applied scientist or engineer is also concerned with theory but as a means to an end He tries to devise a theory which will encompass the known experimental facts both because an all embracing theory somehow serves as an extra validation of the facts and because the theory provides us with new leads to further fruitful experimental investigation I have laboured these perhaps rather obvious points because they are well exemplified in this present book The first internal combustion engines produced just over one hundred years ago were very simple the design being based on very limited experimental information The current engines

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Engineering Science N4 Questions Answers Book Review: Unveiling the Magic of Language

In an electronic digital era where connections and knowledge reign supreme, the enchanting power of language has become more apparent than ever. Its capability to stir emotions, provoke thought, and instigate transformation is truly remarkable. This extraordinary book, aptly titled "**Engineering Science N4 Questions Answers**," written by a very acclaimed author, immerses readers in a captivating exploration of the significance of language and its profound impact on our existence. Throughout this critique, we will delve to the book's central themes, evaluate its unique writing style, and assess its overall influence on its readership.

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