CAPE® Computer Science

SYLLABUS SPECIMEN PAPER MARK SCHEME SUBJECT REPORTS Macmillan Education Ltd 4 Crinan Street, London, N1 9XW A division of Springer Nature Limited Companies and representatives throughout the world

ISBN 978-0-230-48244-9 AER

www.macmillan-caribbean.com

© Caribbean Examinations Council (CXC®) 2020 www.cxc.org www.cxc-store.com

The author has asserted their right to be identified as the author of this work in accordance with the Copyright, Design and Patents Act 1988.

First published 2014 This revised edition published 2020

Permission to copy

The material in this book is copyright. However, the publisher grants permission for copies to be made without fee. Individuals may make copies for their own use or for use by classes of which they are in charge; institutions may make copies for use within and by the staff and students of that institution. For copying in any other circumstances, prior permission in writing must be obtained from Macmillan Publishers Limited. Under no circumstances may the material in this book be used, in part or in its entirety, for commercial gain. It must not be sold in any format.

Designed by Macmillan Education Limited

Cover design by Macmillan Education Limited and Red Giraffe

CAPE® Computer Science Free Resources

LIST OF CONTENTS

CAPE® Computer Science Syllabus Extract	3
CAPE® Computer Science Syllabus	4
CAPE® Computer Science Specimen Papers:	
Unit 1 Paper 01	50
Unit 1 Paper 02	54
Unit 2 Paper 01	60
Unit 2 Paper 02	64
CAPE® Computer Science Mark Schemes:	
Unit 1 Paper 01	69
Unit 1 Paper 02	70
Unit 2 Paper 01	81
Unit 2 Paper 02	82
CAPE® Computer Science Subject Reports:	
2004 Subject Report	91
2005 Subject Report	106
2006 Subject Report	120
2008 Subject Report Rest of Caribbean	136
2009 Subject Report	145
2010 Subject Report	155
2011 Subject Report	165
2012 Subject Report	181
2013 Subject Report	193
2014 Subject Report	205
2015 Subject Report	219
2016 Subject Report	234
2017 Subject Report	250
2019 Subject Report	268

Computer Science

Computer science is the study of the theoretical foundations of information and computation and their implementation and application in computer systems. The CAPE Computer Science Syllabus provides persons with advanced knowledge, skills and attitudes to enable them to understand the uses and the impact of computer technologies, and to use the technology to create new computer applications for all areas of human activity. This syllabus provides opportunity for the acquisition of knowledge, skills and attitudes as preparation for further studies in Computer Science and the world of work.

This syllabus consists of two Units, each comprising three Modules.

Unit 1: Fundamentals of Computer Science

Module 1 – Computer Architecture and Organisation

Module 2 – Problem-Solving with Computers

Module 3 – Programming

Unit 2: Further Topics in Computer Science

Module 1 – Data Structures

Module 2 – Software Engineering

Module 3 – Operating Systems and Computer Networks



CARIBBEAN EXAMINATIONS COUNCIL

Caribbean Advanced Proficiency Examination $\mathbf{CAPE}^{^{\otimes}}$

COMPUTER SCIENCE SYLLABUS

Effective for examinations from May/June 2009

Published by the Caribbean Examinations Council

All rights reserved. No part of this publication may be reproduced, stored in a retrieval system, or transmitted in any form, or by any means electronic, photocopying, recording or otherwise without prior permission of the author or publisher.

Correspondence related to the syllabus should be addressed to:

The Pro-Registrar Caribbean Examinations Council Caenwood Centre 37 Arnold Road, Kingston 5, Jamaica, W.I.

Telephone: (876) 630-5200

Facsimile Number: (876) 967-4972 E-mail address: cxcwzo@cxc.org

Website: www.cxc.org

Copyright © 2008 by Caribbean Examinations Council The Garrison, St Michael BB14038, Barbados

Contents

RATIONALE	Į
AIMS2	!
SKILLS AND ABILITIES TO BE ASSESSED	2
PRE-REQUISITES OF THE SYLLABUS	ł
STRUCTURE OF THE SYLLABUS4	ŀ
UNIT 1: FUNDAMENTALS OF COMPUTER SCIENCE	
MODULE 1: COMPUTER ARCHITECTURE AND ORGANISATION 5 MODULE 2: PROBLEM-SOLVING WITH COMPUTERS	
MODULE 3: PROGRAMMING	
UNIT 2: FURTHER TOPICS IN COMPUTER SCIENCE	
MODULE 1: DATA STRUCTURES	
MODULE 2: SOFTWARE ENGINEERING MODULE 3: OPERATING SYSTEMS AND COMPUTER NETWORKS	
OUTLINE OF ASSESSMENT	23
REGULATIONS FOR PRIVATE CANDIDATES	35
REGULATIONS FOR RESIT CANDIDATES	35
ASSESSMENT GRID	36
LOGIC SYMBOLS	6
CLOSSARV	27