

Summer Assignment for BTEC Level 3 Nationals in Information Technology

Deadline for Independent Learning Activity: Friday 14th September 2018 (scroll to bottom)

Exam Board: Pearson BTEC Level 3 Extended Certificate in Information Technology (QAN: 601/7575/8)

Website Link: <http://qualifications.pearson.com/en/qualifications/btec-nationals/information-technology-2016.html> and quals.pearson.com/BTECNats16IT

Link to full specification: https://qualifications.pearson.com/content/dam/pdf/BTEC-Nationals/Information-Technology/2016/specification-and-sample-assessments/9781446938058_BTEC_NAT_ExtCert_IT_Spec_Iss2CUpd.pdf

Unit 1 – Information Technology Systems (externally assessed)

Topic A: Digital Devices in IT Systems

The concepts and implications of the use of, and relationships among, the devices that form IT systems.

A1 Digital devices, their functions and use

The features and uses of digital devices in IT systems to meet the needs of individuals and organisations.

A2 Peripheral devices and media

The features and uses of peripheral devices and media in IT systems to meet the needs of individuals and organisations.

A3 Computer software in an IT system

The concepts and implications of the use of, and relationships between, hardware and software that form large- and small-scale IT systems and their impact on individuals and organisations.

A4 Emerging technologies

How emerging technologies can be used by individuals and organisations.

A5 Choosing IT systems

How the features of an IT system can affect its performance and/or the performance of a larger IT system.

Topic B: Transmitting Data

The concepts, process and implications of transferring data within and between IT systems.

B1 Connectivity

B2 Networks

The concepts and implications for individuals and organisations of connecting devices together to form a network.

B3 Issues relating to transmission of data

How the features and processes of data transmission affect the use and performance of IT systems.

Topic C: Operating Online

The implications for individuals and organisations of using online IT systems.

C1 Online systems

The features, impact and implications of the use of online IT systems to store data and perform tasks.

C2 Online communities

The features of online communities and the implications of their widespread use for organisations and individuals.

Topic D: Protecting Data

The issues and implications of storing and transmitting information in digital form.

D1 Threats to data, information and systems

The implications of accidental and malicious threats to the security and integrity of data, held in, and used by, IT systems.

D2 Protecting data

The features, uses and implications of systems and procedures used to protect the data of individuals and organisations.

Topic E: Impact of IT Systems

The uses, issues and implications of IT systems and their impact on individuals and organisations.

E1 Online services

How the features of online services are used to meet the needs of individuals and organisations.

E2 Impact on organisations

The features and implications of IT systems used by organisations

E3 Using and manipulating data

The uses, processes and implications for individuals and organisations of accessing and using data and information in digital form.

Topic F: Issues

The concepts, impacts and implications of issues resulting from the use of IT systems.

F1 Moral and ethical issues

The implications, for individuals, organisations and wider society, of moral and ethical factors of using information technology.

F2 Legal, moral and ethical issues

The legal issues relating to the use of IT systems and the implications for individuals, organisations and wider society.

Unit 2 – Creating Systems to Manage Information (controlled assignment)

Topic A: The purpose and structure of relational database management systems

A1 Relational database management systems

A2 Manipulating data structures and data in relational databases

A3 Normalisation

Topic B: Standard methods and techniques to design relational database solutions

B1 Relational database design

B2 Design documentation

Topic C: Creating a relation database structure

C1 Producing a database solution

C2 Testing and refining the database solution

Topic D: Evaluating a database development project

The characteristics, concepts, impact and implications of testing methodologies to monitor and evaluate database design, the database created, testing processes and success of the solution.

D1 Database design evaluation

D2 Evaluation of database testing

D3 Evaluation of the database

Unit 3 – Using Social Media in Business (internally assessed)

Learning Aim A: Explore the impact of social media on the ways in which businesses promote their products and services

A1 Social media websites

A2 Business uses of social media

A3 Risks and issues

Learning Aim B: Develop a plan to use social media in a business to meet requirements

B1 Social media planning processes

B2 Business requirements

B3 Content planning and publishing

B4 Developing an online community

B5 Developing a social media policy

B6 Reviewing and refining plans

Learning Aim C: Implement the use of social media in a business

C1 Creating accounts and profiles

C2 Content creation and publication

C3 Implementation of online community building

C4 Data gathering and analysis

C5 Skills, knowledge and behaviours

Unit 5 – Data Modelling (internally assessed)

Learning Aim A: Investigate data modelling and how it can be used in the decision-making process

A1 Stages in the decision making process

A2 Spreadsheet features used to support data modelling

A3 Using data modelling to consider alternatives

A4 Evaluating models

A5 Documenting and justifying decisions

Learning Aim B: Design a data model to meet client requirements

B1 Functional specification

B2 Spreadsheet model design

B3 Reviewing and refining data model designs

Learning Aim C: Develop a data model to meet client requirements

C1 Developing a data model solution

C2 Testing the data model solution

C3 Reviewing and refining the data model solution

C4 Skills, knowledge and behaviours

Reading List:

Course Textbook

BTEC Nationals Information Technology Student Book 1 + Activebook @ £27 – ISBN: 9781292140414 (currently £24.03 in [Wordery](#))

Includes all four units covered in the extended certificate

Revision Workbook – Unit 1 and 2 (Examined Units)

Revise BTEC National Information Technology Revision Workbook @£10.99 – ISBN: 1292150351

Revision Guide – Unit 1 and 2 (Examined Units)

Revise BTEC National Information Technology Units 1 and 2 Revision Guide @£12.99 – ISBN: 1292230509

Independent Learning Activity:

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Introduction:

IT systems support and enable individuals and organisations to achieve their aims and are present in almost everything we do. Being able to effectively select and use appropriate IT systems is a valuable skill in any area, vocational or personal. You will be investigating a wide range of IT systems that are used to support the aims of individuals, groups or organisations. An IT system can be anything from a single digital device to a global collection of computers. Even large IT systems are made up of smaller devices that can perform both an isolated individual role or be part of a larger IT system.

Activity:

To research the following digital devices, their function and use:

- personal computers
- mobile devices
- servers
- entertainment systems
- digital cameras – still, video
- navigation systems
- data capture and collection systems

As a baseline, describe examples of each and the tasks that they can perform

Could you then identify where and how these devices might be used in any/all of the following:

- education and training
- personal
- social
- retail
- organisational use – business operations, internal/external dissemination of information
- creative

You may find that this information works better in a table format; however you need to be completing 500+ words

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