EXIN

EXIN Green IT

FOUNDATION

Certified by EXIN

Sample Exam

Edition 201606

Content

Introduction

This is the sample exam EXIN Green IT Foundation (GRITF.EN). The Rules and Regulations for EXIN's examinations apply to this exam.

This exam consists of 40 multiple-choice questions. Each multiple-choice question has a number of possible answers, of which only one is the correct answer.

The maximum number of points that can be obtained for this exam is 40. Each correct answer is worth one point. If you obtain 26 points or more you will pass.

The time allowed for this exam is 60 minutes.

Good luck!

Sample Exam

1 / 40
Utilising 'systems' in a manner that is 'right sized' for the business/service and capacity they are designed to provide.

What is this a definition of?

  A. Efficient application
  B. Energy sensitive technologies
  C. Earth sensitive technologies
  D. Earth/energy sensitive technologies

2 / 40
Which benefit of the SMART/GREEN ICT Framework assists Technology vendors in classifying the 'Green' features of a product or services?

  A. Agnostic Resource
  B. Common reference framework
  C. Non-technical reference
  D. Simple graphical layout

3 / 40
Which factor accelerates a need to adopt Green/sustainable IT practices?

  A. Hardware drawing less power
  B. increasing demand for IT services
  C. IT budgets increasing
  D. regulations which limit power consumption

4 / 40
What does the term 'Green IT maturity potential' refer to?

  A. A measure of the organization's maturity in terms of green computing practices and principles.
  B. An individual's ability to learn and execute Green IT practices within their scope of influence.
  C. The age and experience of engineers and managers assigned to Green IT to execute the organization's Green IT strategy.
  D. The point where the organization's desire to change and supporting infrastructure and personnel converge.

5 / 40
How do sustainable computing practices (Green IT) support Corporate Social Responsibility (CSR) policies?

A. Sustainable computing practices advocate social, financial and environmental value of IT services.
B. Sustainable computing practices advocate only financial corporate governance of IT services.
C. Sustainable computing practices value only the financial performance of IT services.
D. Sustainable computing practices value social and financial performance of IT services.

6 / 40
Economic and Environmental factors are two of the three considerations for Triple bottom line (3BL) accounting.

What is the third factor?

A. Ecological
B. Equitable
C. Social
D. Sustainable

7 / 40
In order for a computer to receive an Energy Star certification, requirements for which element must be satisfied?

A. Power Supply Availability
B. Power Supply Capacity
C. Power Supply Efficiency
D. Power Supply Reliability

8 / 40
Which environmental factor should be considered when selecting computer equipment to purchase for the organisation besides the 'fit for purpose' requirements?

A. fit for disposal
B. fit for reuse
C. price competitiveness
D. system performance

9 / 40
What is typically a high energy consumption component of the standard office PC?

A. display
B. keyboard
C. LEDS and indicator lights
D. mouse

10 / 40
What is a well-established power mode for a PC?

A. Relax
B. Eco-Mode
C. Hibernate
D. Snooze

11 / 40
What is **not** a green consideration when making a purchasing decision for a printer?

A. Duty cycle
B. Ergonomic design
C. Network capability
D. Print technology

12 / 40
What is the definition of Central Processing Unit (CPU) power management?

A. ensuring only the right number of processors are used in office equipment
B. optimising power by consuming less during periods of low activity or idle states to reduce power draw when not in use
C. reducing the supply of power from the motherboard to the processor which causes the processor core to shut down and save power
D. switching off power to the processor after office hours or during holidays

13 / 40
What is the most common understanding of e-waste?

A. electronic hardware which is slow and crashes often
B. electronic hardware which is destined for salvage, recycling or landfill
C. electronic hardware which the user no longer wants
D. software which is out of date and no longer functional

14 / 40
What is the purpose of auditing an electronics recycler when recycling end of life IT equipment?

A. ascertain if the recycler refurbishes and re-sells recoverable equipment
B. confirm the recycler donates working equipment to worthy causes
C. confirm the recycler does not export e-waste to other countries

What aspect of e-waste poses the greatest bio-accumulative health risks to humans?

A. GHG Emissions from e-waste landfill dumping
B. soluble toxins from e-waste
C. the cumulative mass and weight of e-waste
D. the time it takes for plastic to bio-degrade

At the end of a traditional refresh cycle electronic equipment is normally retired.

What are socio-environmental alternatives to retiring this equipment?

A. re-assigning or re-deploying equipment
B. storing equipment for an extended period
C. tag for end-of-life disposal through landfill

Can Application infrastructure virtualization lead to server resource optimisation via allowing applications to be separated (decoupled) from the physical infrastructure?

A. yes
B. no

What is a green advantage of application infrastructure virtualization?

A. It improves the performance of the physical servers.
B. It makes it possible to prolong the lifespan of physical servers.
C. It makes it possible to reduce the number of physical servers.
D. It reduces the energy consumption of the physical servers.

What is an example of a technology that can reduce the amount of power consumed by storage hardware?

A. 3PAR VTIP
B. ILM
C. MAID
D. RAID

What makes a hosted data center provider a good choice from a green perspective?

A. a cheaper and a more efficient alternative to running all these systems in-house
B. cleaner power and cooling systems which means less CO_2 emissions
C. consolidation and economy of scale which can result in an overall reduction of power and equipment
D. location near cheaper, cleaner power and cooling resources

21 / 40
Climate control draws considerable energy and is critical to operating servers in the data center.

What are possible methods which may reduce the energy required to cool the data center?

A. restricting the chilled water supply to CRAC units
B. turn the thermostat settings lower
C. utilise outside cold air or bodies of water

22 / 40
Which statement is correct in terms of cooling computing equipment in data centers?

A. chilled air systems are more difficult to move around or change than liquid cooling systems
B. chilled air systems can move heat more effectively than liquid cooling systems
C. liquid cooling systems can move heat more effectively than chilled air systems
D. traditional space air cooling systems direct chilled air exactly where and when its needed

23 / 40
DCiE and PUE refer to relative efficiency between power supply chain (supply side) and the IT equipment power (demand side).

Which item should be included when determining (measuring) the power supply chain?

A. Building switchgear
B. Network equipment
C. Rack mount storage
D. Rack servers

24 / 40
Application consolidation is made possible through virtualising applications on a server.

How can this assist in reaching Green (IT) goals of the organisation?

A. by allowing production servers to run more than one application
B. by increasing the performance of the application server
C. by reducing the power required by the physical application server
D. by reducing the need for physical servers through consolidation

What is an environmental benefit of telecommuting?

A. reducing employees' travel expenses on the commute to and from work
B. reducing transport related emissions from employees traveling to and from their workplace
C. reducing transport related emissions from employees traveling for work and business trips
D. replacing face to face meetings with virtual meetings therefore reducing travel emissions

What technology can be used to secure information transfer using the Internet?

A. Remote access
B. Remote Client
C. Virtual Private Network (VPN)
D. Web communications

Besides greening through virtualizing the way we live and work, what is another way ICT can reduce emissions in a low-carbon economy?

A. by providing low-cost transport for information workers
B. by providing technology to enable energy efficiency
C. through e-services and virtual distribution networks
D. through internet booking and online product ordering systems

How do SMART/GREEN ICT solutions underpin sustainable business practices?

A. by increasing the availability of products and/or services
B. by optimising systems and processes to make them more efficient
C. by providing low-cost business process outsourcing
D. by raising public awareness of carbon emissions

In a modern workplace IT can remove the need for paper.

How is a better collaboration between team members achieved?

A. digital/electronic document management
B. instant, online messaging services
C. outsourcing print and document archiving
D. printing to networked multi-function devices

How does technology in SMART buildings allow building operators to be more data driven?

A. Different devices (sensors, heaters, actuators etc.) are enabled to communicate with each other.
B. Operators enter building data into modelling software which provides visibility of building systems.
C. Security systems monitor building occupants and provide building operators with floor loading information.
D. Wireless cameras stream data to building operators allowing them to adjust the building environment.

31 / 40
How can Dematerialisation via online billing, media and music potentially decrease emissions?

A. ensuring products are only manufactured when there is a confirmed order
B. increasing the availability of services for end-users/consumers
C. providing a comprehensive catalogue allowing customers to order only what they need
D. reducing the manufacturing and distribution emissions of material products.

32 / 40
How does ICT connect customers to Built To Order (BTO) supply chain systems?

A. by providing detailed product information on social networking internet sites
B. by providing detailed product information through internet search engines
C. through e-commerce internet sites which provide detailed product information
D. via online/electronic marketing and promotion of products and services

33 / 40
What does environmental governance thrive on?

A. an empowered workforce
B. a visionary leader
C. innovation and creativity
D. rules and procedures

34 / 40
What is the Business Environmental Officer Accountable for?

A. controlling environmental initiatives and outputs
B. direct success of the environmental organisation
C. establishing environmental organisation structure
D. establishing environmental roles and responsibilities

35 / 40
Where can green aspirations be reflected in?

 A. the utility of a service
 B. the warranty of a service
 C. the warranty and utility of a service

36 / 40
How can the environmental impact of a service be determined?

 A. by making use of the ISO 14001 standard for environmental management
 B. by performing a complete analysis of all the environmental inputs of a service
 C. by performing a complete analyses of all the environmental outputs of a service
 D. by performing a lifecycle analysis combined with a systems-based approach

37 / 40
What should be part of a green policy?

 A. complying to the ISO/IEC 14000 standards
 B. donating money to organizations like the World Wildlife Fund
 C. educating employees in the environmental impact of their work
 D. putting solar panels on the roof of buildings

38 / 40
Which statement about a Green IT policy is **not** correct?

 A. It must be aligned with the CSR policy.
 B. It must be based on the ISO/IEC 14001 standard.
 C. It must improve the organization's environmental credentials.
 D. It must include waste reduction and recycling.

39 / 40
What is one of the objectives of a sustainable service strategy?

 A. embed social and environmental values
 B. identify methods to reduce overheads
 C. increase productivity and performance
 D. obtain value for money

Is it possible to reflect green aspirations in the utility and warranty characteristics of a service?

A. This is possible when the customers articulate their green aspirations in their requirements.

B. This is not possible, because green aspiration can only be reflected in the environmental characteristics of a service.

C. This is possible when the applied technology is selected on clear environmental criteria.

D. This is not possible because green aspirations are only relevant for the utility of a service.

Answer Key

1 / 40
Utilising 'systems' in a manner that is 'right sized' for the business/service and capacity they are designed to provide.

What is this a definition of?

A. Efficient application
B. Energy sensitive technologies
C. Earth sensitive technologies
D. Earth/energy sensitive technologies

A. Correct. Efficient application refers to utilization and provisioning. (e2Readiness - SMART/Green ICT Framework - Green ICT Definition).
B. Incorrect. Efficient application refers to utilization and provisioning. (e2Readiness - SMART/Green ICT Framework - Green ICT Definition).
C. Incorrect. Efficient application refers to utilization and provisioning. (e2Readiness - SMART/Green ICT Framework - Green ICT Definition).
D. Incorrect. Efficient application refers to utilization and provisioning. (e2Readiness - SMART/Green ICT Framework - Green ICT Definition).

2 / 40
Which benefit of the SMART/GREEN ICT Framework assists Technology vendors in classifying the 'Green' features of a product or services?

A. Agnostic Resource
B. Common reference framework
C. Non-technical reference
D. Simple graphical layout

A. Incorrect. The framework refers to complimenting other frameworks from Technology vendors, system integrators and solution providers. (e2Readiness - SMART/GREEN ICT Framework - Green ICT definition).
B. Correct. Common reference framework refers to communication with external parties and assist in classifying the 'Green' features of products or services. (e2Readiness - SMART/GREEN ICT Framework - Green ICT definition).
C. Incorrect. Common reference framework refers to IT and Non-IT teams understanding, collaborating and communicating on initiatives. (e2Readiness - SMART/GREEN ICT Framework - Green ICT definition).
D. Incorrect. Common reference framework refers to using the easy to framework illustrate concepts and presentation friendly. (e2Readiness - SMART/GREEN ICT Framework - Green ICT definition).

Which factor accelerates a need to adopt Green/sustainable IT practices?

 A. Hardware drawing less power

 B. increasing demand for IT services

 C. IT budgets increasing

 D. regulations which limit power consumption

A. Incorrect. With the increasing demand for IT services, there will be an increasing demand for more power.
B. Correct. An increasing demand for IT services means an increase in Carbon dioxide emissions. (Green IT for Dummies, Chapter 1).
C. Incorrect. IT budgets are not increasing, the demand for IT services is increasing.
D. Incorrect. Regulations can limit GHG emissions, but not power consumption.

4 / 40
What does the term 'Green IT maturity potential' refer to?

 A. A measure of the organization's maturity in terms of green computing practices and principles.

 B. An individual's ability to learn and execute Green IT practices within their scope of influence.

 C. The age and experience of engineers and managers assigned to Green IT to execute the organization's Green IT strategy.

 D. The point where the organization's desire to change and supporting infrastructure and personnel converge.

A. Incorrect. Green IT maturity potential is the point where the organization's desire to change and the supporting infrastructure and personnel converge.
B. Incorrect. Green IT maturity potential is the point where the organization's desire to change the supporting infrastructure and personnel converge.
C. Incorrect. Green IT maturity potential is the point where the organization's desire to change and the supporting infrastructure and personnel converge.
D. Correct. Green IT maturity potential is the point where the organization's desire to change and the supporting infrastructure and personnel converge.

5 / 40

How do sustainable computing practices (Green IT) support Corporate Social Responsibility (CSR) policies?

 A. Sustainable computing practices advocate social, financial and environmental value of IT services.
 B. Sustainable computing practices advocate only financial corporate governance of IT services.
 C. Sustainable computing practices value only the financial performance of IT services.
 D. Sustainable computing practices value social and financial performance of IT services.

A. Correct. Sustainable computing follows CSR and sustainability principles, which are social, financial and environmental considerations. (Green IT for Dummies page 11).
B. Incorrect. Sustainable computing practices encompass more than financial governance.
C. Incorrect. Sustainable computing practices encompass more than financial performance of IT services.
D. Incorrect. Sustainable computing practices encompass more than Social and financial performance of IT services.

6 / 40

Economic and Environmental factors are two of the three considerations for Triple bottom line (3BL) accounting.

What is the third factor?

 A. Ecological
 B. Equitable
 C. Social
 D. Sustainable

A. Incorrect. Ecological is similar to environmental therefore it is already referenced.
B. Incorrect. Equitable is inferred, but is not an explicit part of 3BL.
C. Correct. The third consideration for 3BL is Social. (Green IT for Dummies page 16).
D. Incorrect. Sustainable is an overarching principle for 3BL.

7 / 40

In order for a computer to receive an Energy Star certification, requirements for which element must be satisfied?

 A. Power Supply Availability
 B. Power Supply Capacity
 C. Power Supply Efficiency
 D. Power Supply Reliability

A. Incorrect. Power Availability is not a requirement.
B. Incorrect. Power Capacity is not a requirement.
C. Correct. Green IT for Dummies, page 225: Energy Star certification requires computer power supplies to be at least 80% efficient at a range of operating loads.
D. Incorrect. Power Reliability is not a requirement.

Which environmental factor should be considered when selecting computer equipment to purchase for the organisation besides the 'fit for purpose' requirements?

 A. fit for disposal

 B. fit for reuse

 C. price competitiveness

 D. system performance

A. Correct. Fit for disposal is the consideration for end of life.
B. Incorrect. Fit for reuse is not necessarily an environmental factor.
C. Incorrect. Price is a consideration, but not an environmental consideration.
D. Incorrect. System performance is a consideration under fit for purpose, but not an environmental consideration.

9 / 40
What is typically a high energy consumption component of the standard office PC?

 A. display

 B. keyboard

 C. LEDS and indicator lights

 D. mouse

A. Correct.
B. Incorrect.
C. Incorrect.
D. Incorrect.

10 / 40
What is a well-established power mode for a PC?

 A. Relax

 B. Eco-Mode

 C. Hibernate

 D. Snooze

A. Incorrect. Hibernation is a well-established power mode for a PC.
B. Incorrect. Hibernation is a well-established power mode for a PC.
C. Correct. Hibernation is a well-established power mode for a PC. (Green IT for Dummies, page 233.)
D. Incorrect. Hibernation is a well-established power mode for a PC.

What is **not** a green consideration when making a purchasing decision for a printer?

 A. Duty cycle

 B. Ergonomic design

 C. Network capability

 D. Print technology

A. Incorrect. Duty cycle is a green consideration.
B. Correct. Green IT for Dummies, page 246: Ergonomic is **not** a green consideration.
C. Incorrect. Network capability is a green consideration.
D. Incorrect. Print technology (laser/ inkjet) is a green consideration.

12 / 40
What is the definition of Central Processing Unit (CPU) power management?

 A. ensuring only the right number of processors are used in office equipment

 B. optimising power by consuming less during periods of low activity or idle states to reduce power draw when not in use

 C. reducing the supply of power from the motherboard to the processor which causes the processor core to shut down and save power

 D. switching off power to the processor after office hours or during holidays

A. Incorrect. CPU is optimising power by consuming less during periods of inactivity.
B. Correct. This is the definition of CPU power management.
C. Incorrect. CPU is optimising power by consuming less during periods of inactivity.
D. Incorrect. CPU is optimising power by consuming less during periods of inactivity.

13 / 40
What is the most common understanding of e-waste?

 A. electronic hardware which is slow and crashes often

 B. electronic hardware which is destined for salvage, recycling or landfill

 C. electronic hardware which the user no longer wants

 D. software which is out of date and no longer functional

A. Incorrect. e-waste is electronic hardware which is destined for salvage, recycling or landfill.
B. Correct. This is a definition of e-waste.
C. Incorrect. e-waste is electronic hardware which is destined for salvage, recycling or landfill.
D. Incorrect. e-waste is electronic hardware which is destined for salvage, recycling or landfill.

What is the purpose of auditing an electronics recycler when recycling end of life IT equipment?

 A. ascertain if the recycler refurbishes and re-sells recoverable equipment

 B. confirm the recycler donates working equipment to worthy causes

 C. confirm the recycler does not export e-waste to other countries

A. Incorrect. Purpose of recycling is to recover materials for reuse without impacting the environment negatively.
B. Incorrect. Purpose of recycling is to recover materials for reuse without impacting the environment negatively.
C. Correct. Green IT for Dummies page 294-297.

15 / 40
What aspect of e-waste poses the greatest bio-accumulative health risks to humans?

 A. GHG Emissions from e-waste landfill dumping

 B. soluble toxins from e-waste

 C. the cumulative mass and weight of e-waste

 D. the time it takes for plastic to bio-degrade

A. Incorrect. Emissions are a concern but not as persistent as heavy metal toxins.
B. Correct. Green IT for Dummies page 295.
C. Incorrect. the shear amount of e-waste is an area of concern but specifically heavy metal toxins have the biggest impact on human health.
D. Incorrect. Plastics are a concern but not as persistent as heavy metal toxins.

16 / 40
At the end of a traditional refresh cycle electronic equipment is normally retired.

What are socio-environmental alternatives to retiring this equipment?

 A. re-assigning or re-deploying equipment

 B. storing equipment for an extended period

 C. tag for end-of-life disposal through landfill

A. Correct. Green IT for Dummies, page 290-293.
B. Incorrect. Storing equipment diminishes value and limits potentially socio-environmental options if equipment is too old.
C. Incorrect. Landfill is not a socio-environmental alternative.

17 / 40
Can Application infrastructure virtualization lead to server resource optimisation via allowing applications to be separated (decoupled) from the physical infrastructure?

 A. yes

 B. no

A. Correct. Green IT for dummies page 209.
B. Incorrect. Green IT for dummies page 209.

What is a green advantage of application infrastructure virtualization?

A. It improves the performance of the physical servers.

B. It makes it possible to prolong the lifespan of physical servers.

C. It makes it possible to reduce the number of physical servers.

D. It reduces the energy consumption of the physical servers.

A. Incorrect. Virtualization doesn't give a performance improvement. See pages 209 - 212 Green IT for Dummies.
B. Incorrect. The lifespan of a server will not be longer when virtualization is being used. See pages 209 - 212 Green IT for Dummies.
C. Correct. By making a much more efficient use of the resources of a server the amount of physical servers can be reduced. See pages 209 - 212 Green IT for Dummies.
D. Incorrect. Virtualization doesn't reduces the energy consumption of a server. See pages 209 - 212 Green IT for Dummies.

19 / 40
What is an example of a technology that can reduce the amount of power consumed by storage hardware?

A. 3PAR VTIP

B. ILM

C. MAID

D. RAID

A. Incorrect. This is not a technology but a program: 3PAR Virtual Technology Incentive Program. See page 182 Green IT for Dummies.
B. Incorrect. ILM stands for Information Lifecycle Management, it does not impact hardware power consumption. See page 117 - 118 Green IT for Dummies.
C. Correct. MAID stands for Massive Array of Idle Disks. See page 184-187 Green IT for Dummies.
D. Incorrect. RAID stands for Redundant Array of Independent Disks. This technology has no direct impact on the amount of power. See page 183-184 Green IT for Dummies.

20 / 40
What makes a hosted data center provider a good choice from a green perspective?

A. a cheaper and a more efficient alternative to running all these systems in-house

B. cleaner power and cooling systems which means less CO_2 emissions

C. consolidation and economy of scale which can result in an overall reduction of power and equipment

D. location near cheaper, cleaner power and cooling resources

A. Incorrect. They might offer a cheaper solution, but that is not in itself green. See page 122 Green IT for Dummies.
B. Incorrect. They might offer cleaner power and cooling systems, but that is not by definition the case with every hosted data center provider. See page 122 Green IT for Dummies.
C. Correct. See page 122 Green IT for Dummies.
D. Incorrect. They may have a location near cheaper, cleaner power and cooling resources, but that is not by definition the case with every hosted data center provider. See page 122 Green IT for Dummies.

Climate control draws considerable energy and is critical to operating servers in the data center.

What are possible methods which may reduce the energy required to cool the data center?

 A. restricting the chilled water supply to CRAC units
 B. turn the thermostat settings lower
 C. utilise outside cold air or bodies of water

A. Incorrect. This will not reduce energy draw.
B. Incorrect. This will not reduce energy draw.
C. Correct. See page 130 Green IT for Dummies.

22 / 40
Which statement is correct in terms of cooling computing equipment in data centers?

 A. chilled air systems are more difficult to move around or change than liquid cooling systems
 B. chilled air systems can move heat more effectively than liquid cooling systems
 C. liquid cooling systems can move heat more effectively than chilled air systems
 D. traditional space air cooling systems direct chilled air exactly where and when its needed

A. Incorrect. See page 177 Green IT for Dummies.
B. Incorrect. See page 177 Green IT for Dummies.
C. Correct. See page 177 Green IT for Dummies.
D. Incorrect. See page 177 Green IT for Dummies.

23 / 40
DCiE and PUE refer to relative efficiency between power supply chain (supply side) and the IT equipment power (demand side).

Which item should be included when determining (measuring) the power supply chain?

 A. Building switchgear
 B. Network equipment
 C. Rack mount storage
 D. Rack servers

A. Correct. The power supply to the IT equipment includes Network equipment, Rack mount storage and Rack servers. See page 165 of Green IT for Dummies.
B. Incorrect. The power supply to the IT equipment includes Network equipment, Rack mount storage and Rack servers.
C. Incorrect. The power supply to the IT equipment includes Network equipment, Rack mount storage and Rack servers.
D. Incorrect. The power supply to the IT equipment includes network equipment, Rack mount storage and Rack servers.

Application consolidation is made possible through virtualising applications on a server.

How can this assist in reaching Green (IT) goals of the organisation?

A. by allowing production servers to run more than one application
B. by increasing the performance of the application server
C. by reducing the power required by the physical application server
D. by reducing the need for physical servers through consolidation

A. Incorrect. Running more applications does not relate to green objectives, consolidation of physical servers is a more correct answer.
B. Incorrect. Virtualisation does not increase performance of a single physical server
C. Incorrect. Virtualisation does not reduce power required by a single physical server
D. Correct. Green in Virtualisation, Green IT for dummies page 208

25 / 40
What is an environmental benefit of telecommuting?

A. reducing employees' travel expenses on the commute to and from work
B. reducing transport related emissions from employees traveling to and from their workplace
C. reducing transport related emissions from employees traveling for work and business trips
D. replacing face to face meetings with virtual meetings therefore reducing travel emissions

A. Incorrect. Travel expenses are not an environmental consideration or benefit.
B. Correct. Reduction in carbon emissions by allowing employees to work from home instead of commuting to work (Green IT for dummies, page 313).
C. Incorrect. Telecommuting specifically refers to emissions which would have resulted from travel to and from work only.
D. Incorrect. Virtual meetings reducing travel business travel requirements not specifically employee commuting.

26 / 40
What technology can be used to secure information transfer using the Internet?

A. Remote access
B. Remote Client
C. Virtual Private Network (VPN)
D. Web communications

A. Incorrect. Remote access does not infer security.
B. Incorrect. Remote clients do not infer secure communications.
C. Correct. Virtual Private Network (VPN) secures network traffic.
D. Incorrect.HTML/HTTP is insecure without network layer security or encryption.

Besides greening through virtualizing the way we live and work, what is another way ICT can reduce emissions in a low-carbon economy?

 A. by providing low-cost transport for information workers

 B. by providing technology to enable energy efficiency

 C. through e-services and virtual distribution networks

 D. through internet booking and online product ordering systems

A. Incorrect. Low-cost transportation does not directly infer or equate to a reduction of emissions.
B. Correct. Green ICT through monitoring /reporting can reveal inefficiency and high emissions in real time allowing businesses to optimize systems and processes (SMART 2020: Enabling the low carbon economy in the information age -page 6)
C. Incorrect. E-services and virtual distribution networks is a subset of virtualizing the way we live and work.
D. Incorrect. Online booking and product ordering systems is a subset of virtualizing the way we live and work.

28 / 40
How do SMART/GREEN ICT solutions underpin sustainable business practices?

 A. by increasing the availability of products and/or services

 B. by optimising systems and processes to make them more efficient

 C. by providing low-cost business process outsourcing

 D. by raising public awareness of carbon emissions

A. Incorrect. Increasing the availability of products and services does not equate to, or support more sustainable practices.
B. Correct. ICT can optimize processes and systems reducing the need for resources and limiting waste. (SMART 2020 Enabling the low carbon economy in the information age - page 7.)
C. Incorrect. Low-cost business process outsourcing does not equate to, or support more sustainable practices.
D. Incorrect. Raising public awareness of carbon emissions does not directly underpin or support sustainable business practices.

29 / 40
In a modern workplace IT can remove the need for paper.

How is a better collaboration between team members achieved?

 A. digital/electronic document management

 B. instant, online messaging services

 C. outsourcing print and document archiving

 D. printing to networked multi-function devices

A. Correct. Green document management. (Green IT for Dummies, page 311).
B. Incorrect. Instant messaging services are a collaboration tool, however they are seen as an alternative to telephony, therefore have little if any impact on office printing.
C. Incorrect. Outsourcing printing needs does not remove the need for printing.
D. Incorrect. Printing (hard copies) contradict the cost and collaboration benefits of digital document management.

How does technology in SMART buildings allow building operators to be more data driven?

A. Different devices (sensors, heaters, actuators etc.) are enabled to communicate with each other.

B. Operators enter building data into modelling software which provides visibility of building systems.

C. Security systems monitor building occupants and provide building operators with floor loading information.

D. Wireless cameras stream data to building operators allowing them to adjust the building environment.

A. Correct. Enabling different devices to communicate with each other informs operators of operational inefficiencies (ICT for a Low Carbon Economy - Smart buildings, European Commission –ICT for sustainable growth unit, page 13).
B. Incorrect. Building automation requires real time or near real time data and analyzing capability to optimize efficiency.
C. Incorrect. Building automation infers autonomous intelligent management through sensors etc. Security systems may be integrated into building automation but are not directly responsible for energy and environmental control.
D. Incorrect. Building automation infers autonomous intelligent management through sensors as compared to reactive manpower intensive control and monitoring.

How can Dematerialisation via online billing, media and music potentially decrease emissions?

A. ensuring products are only manufactured when there is a confirmed order

B. increasing the availability of services for end-users/consumers

C. providing a comprehensive catalogue allowing customers to order only what they need

D. reducing the manufacturing and distribution emissions of material products.

A. Incorrect. Linking customer orders and manufacturing in the supply chain is a method to reduce impact but is not a significant aspect of dematerialisation.
B. Incorrect. Increasing the availability of services for end-users / consumers does not directly reduce emissions.
C. Incorrect. Customer catalogues are not a method to reduce carbon emissions.
D. Correct. Dematerialisation via online billing, media and music can reduce emissions from manufacturing and distribution. (SMART 2020 Enabling the low carbon economy in the information age - page 24.)

How does ICT connect customers to Build-To-Order (BTO) supply chain systems?

 A. by providing detailed product information on social networking internet sites

 B. by providing detailed product information through internet search engines

 C. through e-commerce internet sites which provide detailed product information

 D. via online/electronic marketing and promotion of products and services

A. Incorrect. Product information on social networking sites does not infer electronic ordering an payment services which form the 'order' (on demand) for Build-To-Order (BTO) supply chain systems.
B. Incorrect. Product information through internet search engines does not infer electronic ordering an payment services which form the 'order' (on demand) for Build-To-Order (BTO) supply chain systems.
C. Correct. Most often the initial action is the connection of customers through a special internet website, which provides detailed product information and supports Build-To-Order product purchases. (THE BUILD-TO-ORDER TRANSFORMATION Georgia Institute of Technology (Kleinau) - page 7).
D. Incorrect. Online/electronic marketing does not infer electronic ordering an payment services which form the 'order' (on demand) for Build-To-Order (BTO) supply chain systems.

What does environmental governance thrive on?

 A. an empowered workforce

 B. a visionary leader

 C. innovation and creativity

 D. rules and procedures

A.   Correct. Environmental governance thrives on an empowered workforce. See page 177 Greening Service Management.
B.   Incorrect. Leadership is important in order to implement a environmental governance, but it thrives on an empowered workforce. See page 177 Greening Service Management.
C.   Incorrect. Innovation and creativity can be enabled by a (environmental) governance structure, but it thrives on an empowered workforce. See page 177 Greening Service Management.
D.   Incorrect. Rules and procedures will be part of environmental governance, but it thrives on an empowered workforce. See page 177 Greening Service Management.

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What is the Business Environmental Officer Accountable for?

  A. controlling environmental initiatives and outputs
  B. direct success of the environmental organisation
  C. establishing environmental organisation structure
  D. establishing environmental roles and responsibilities

A. Correct. The Business Environmental Officer is accountable for this. Greening Service Management, page 184.
B. Incorrect. The Business Environmental Officer is responsible for this.
C. Incorrect. The Chief executive officer is accountable for this.
D. Incorrect. The Business Environmental Officer is consulted about this.

35 / 40
Where can green aspirations be reflected in?

  A. the utility of a service
  B. the warranty of a service
  C. the warranty and utility of a service

A. Incorrect. Green aspirations can be reflected in the warranty and utility of a service. (See page 35, Greening Service Management.)
B. Incorrect. Green aspirations can be reflected in the warranty and utility of a service. (See page 35, Greening Service Management.)
C. Correct. Green aspirations can be reflected in the warranty and utility of a service. (See page 35, Greening Service Management.)

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How can the environmental impact of a service be determined?

  A. by making use of the ISO 14001 standard for environmental management
  B. by performing a complete analysis of all the environmental inputs of a service
  C. by performing a complete analyses of all the environmental outputs of a service
  D. by performing a lifecycle analysis combined with a systems-based approach

A. Incorrect. ISO 14001 gives the requirements for an environmental management system. It gives no guidelines to analyse the environmental impact of a service. (See page 21 and pages 28 - 32, Greening Service Management.)
B. Incorrect. Only analyzing the inputs means that all that is being used and the output in the form of gaseous emissions and solid and liquid waste are neglected. (See pages 28 - 32, Greening Service Management.)
C. Incorrect. Only analyzing the outputs means that embedded and used energy and other used resources are neglected. See pages 28 - 32 Greening Service Management
D. Correct. Lifecycle analysis allows the broad perspective of environmental impacts to be taken into consideration for any product or service. See pages 28 - 32 Greening Service Management

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What should be part of a green policy?

  A. complying to the ISO/IEC 14000 standards
  B. donating money to organizations like the World Wildlife Fund
  C. educating employees in the environmental impact of their work
  D. putting solar panels on the roof of buildings

A. Incorrect. Compliance to ISO 14000 family of standards can be part of a Green Policy, but is not something which must be included. (See page 183, Greening Service Management.)
B. Incorrect. Donating money to organizations like the World Wildlife Fund can be part of a Green Policy, but is not something which must be included. (See page 183, Greening Service Management.)
C. Correct. The education of employees in the environmental impact of their work should be part of a Green Policy. (See page 183, Greening Service Management.)
D. Incorrect. Putting solar panels on the roof of the buildings can be part of a Green Policy, but is not something which must be included. (See page 183, Greening Service Management.)

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Which statement about a Green IT policy is **not** correct?

  A. It must be aligned with the CSR policy.
  B. It must be based on the ISO/IEC 14001 standard.
  C. It must improve the organization's environmental credentials.
  D. It must include waste reduction and recycling.

A. Incorrect. Making use of the ISO 14001 standard can be part of a Green IT policy, but it is not a necessity. (See page 183, Greening Service Management.)
B. Correct. Making use of the ISO 14001 standard can be part of a Green IT policy but it is not a necessity. (See page 183, Greening Service Management.)
C. Incorrect. Making use of the ISO 14001 standard can be part of a Green IT policy but it is not a necessity. (See page 183, Greening Service Management.)
D. Incorrect. Making use of the ISO 14001 standard can be part of a Green IT policy but it is not a necessity. The Green IT policy should be aligned with the corporate CSR policy. (See page 183, Greening Service Management.)

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What is one of the objectives of a sustainable service strategy?

 A. embed social and environmental values
 B. identify methods to reduce overheads
 C. increase productivity and performance
 D. obtain value for money

A. Correct. See page 50, Green IT Service Management.
D. Incorrect. Objectives of a sustainable service strategy are socio-environmental value. A traditional service strategy seeks to reduce costs in service delivery.
C. Incorrect. Objectives of a sustainable service strategy are socio-environmental value. A traditional service strategy seeks to obtain increase performance.
D. Incorrect. Objectives of a sustainable service strategy are socio-environmental value. A traditional service strategy seeks to obtain value for money.

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Is it possible to reflect green aspirations in the utility and warranty characteristics of a service?

 A. This is possible when the customers articulate their green aspirations in their requirements.
 B. This is not possible, because green aspiration can only be reflected in the environmental characteristics of a service.
 C. This is possible when the applied technology is selected on clear environmental criteria.
 D. This is not possible because green aspirations are only relevant for the utility of a service.

A. Correct. See page 35, Greening Service management.
B. Incorrect. See page 35, Greening Service management.
C. Incorrect. See page 35, Greening Service management.
D. Incorrect. See page 35, Greening Service management.

Evaluation

The table below shows the correct answers to the questions in this sample exam.

Question	Answer	Question	Answer
1	A	21	C
2	B	22	C
3	B	23	A
4	D	24	D
5	A	25	B
6	C	26	C
7	C	27	B
8	A	28	B
9	A	29	A
10	C	30	A
11	B	31	D
12	B	32	C
13	B	33	A
14	C	34	A
15	B	35	C
16	A	36	D
17	A	37	C
18	C	38	B
19	C	39	A
20	C	40	A

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