

## Non-Domestic BER Examination – Specimen Paper ‘11/1A

No.	Question	Answer A	Answer B	Answer C	Answer D	Key
<b>Background to Building Energy Rating</b>						
1	How long is a BER certificate valid for?	1 year	2 years	5 years	10 years	D
2	The Energy Performance of Buildings Directive (EPBD) lays down requirements for:	Energy performance certificates	Inspection of boilers	Independent experts	All of the above	D
<b>Building Regulations Part L and Technical Guidance Document to Part L</b>						
3	In the overall heat loss method of TGD part L, the average elemental U-value for roofs should not exceed:	0.25	0.37	0.62	there is no limit	A
4	CPC, in TGD Part L, stands for:	Calculated Performance Coefficient	Carbon Performance Coefficient	Carbon Dioxide Performance Certificate	Carbon Performance Certificate	B
<b>BER Administration</b>						
5	A BER Assessor is prohibited from carrying out an assessment if:	The building in question is a shop with a dwelling located over it	The building in question is owned by them	The building in question is a shopping center with an atrium and outside café area	The building in question has no heating system.	B
6	What type of audits will BER Assessors have to comply with?	Data and desk review audits	Documentation and practice audits	Full company financial audit	Data review, desk review, documentation and practice audits	D
<b>Non-Domestic National Administration System (NDNAS)</b>						
7	When should a provisional BER be published?	When there are outstanding notices which	When the information for the BER is incomplete	If a BER cannot be completed in time for lease or	When a building is being 'sold off plan'	D

		have yet to be checked		sale		
8	Which of the following is a Non-Domestic National Administration System (NDNAS) system error?	Assessor number in the XML does not match logged in assessor	Assessor not authorised to load this xml	Incomplete building address	All of the above	D
<b>Non Domestic Energy Assessment Procedure (NEAP)</b>						
9	Which ONE of the following is true	CO2 emissions indicator is equal to CO2 emissions (actual) divided by CO2 emissions (notional)	CO2 emissions indicator is equal to CO2 emissions (notional) divided by CO2 emissions( actual)	CO2 emissions indicator is equal to CO2 emissions (reference) divided by CO2 emissions (notional)	CO2 emissions indicator is equal to CO2 emissions (notional) divided by CO2 emissions (reference)	A
10	If you are working on a BER Assessment and a new version of the software tool is made available before you upload the assessment to the NDNAS - what should you do?	Submit the xml file to the NDNAS using the version you have been working on	Request SEAI to convert the xml file	Begin a new assessment using the most current version of the software	Convert the nct file using the nct.convert tool in the new software and submit the updated version	D
11	SBEM calculates the energy consumption for space heating and cooling, water heating, ventilation and what other purpose?	Relative humidity control	HVAC	lighting	Electrical equipment	C
12	Identify the best practice approach to work up a cost for carrying out a non domestic BER:	Use the same rate for every building	1 day per 250 m2 floor area	1 day per 100m2 floor area and a 1/2 day for each sustainable technology used	Estimate the amount of time required to survey, model and submit the BER and cost accordingly	D
13	The purpose of the reference building in SBEM is to (Choose the most correct answer)	be used for comparison with the actual building	Give an indication of compliance with building regulations	enable the calculation of the actual building	Assess the impact of the chosen ventilation and air conditioning strategy	B
14	Which of the following are currently not represented using SBEM based tools?	Single room cooling systems	Metering provision for HVAC systems	Active chilled beams	Demand controlled ventilation	D
15	Primary energy is considered to include	Delivered Energy	Energy incurred in	The energy	All of the above	D

	which of the following?		extracting, processing a fuel	incurred transporting a fuel or other primary energy carrier to the building.		
<b>Building Geometry</b>						
16	A transmission factor (for a window shading system) of 1 refers to:	0% of light transmitted - i.e. complete shading	100% of light transmitted - i.e. no shading	This factor does not relate to the amount of light transmitted	This will vary depending on the shading caused by trees and surrounding buildings	B
17	The area of window openings should be calculated:	By measuring the glazed area only	Measuring the structural opening	Measuring the structural opening in the wall minus the area of the frame	None of the above	B
18	A corridor has no heating directly associated with it. However, it is heated by the offices which are accessed from it. How should this space be defined?	This space has no HVAC system directly serving it. It should, therefore, have no HVAC system assigned to it and should be treated as an unheated space with respect to adjoining zones	This is an indirectly conditioned space. It should have no HVAC system assigned to it but should be considered as a conditioned space with respect to adjoining zones	This is an indirectly conditioned space and should, therefore, be served by the same HVAC system that serves the offices. It should be considered as a conditioned space with respect to adjoining zones	Need further information	C
19	Which one of the following is not a recommended method of determining the age of a building.	Check the date on the electricity meter	Ask the building owner	Look at the building style or period	Check for the presence of a damp proof course (DPC)	D
20	If, after zoning for daylight, there is an area remaining from the original physical space, it need not be defined as a separate zone if it is:	Less than 5 metres deep	Less than 4 metres deep	Less than 3 metres deep	Less than 2 metres deep	C
21	Which of the following statements about the Activity type selected for a zone is	Every zone in SBEM must have	The Activity type selected for a	SBEM attributes occupancy	The Activity type selected for a	D

	false?	an activity type assigned to it.	zone enables SBEM to calculate the energy demand of the zone.	profiles for different activity types from an internal 'locked' database.	zone enables SBEM to calculate the U-values of that zone.	
22	When entering data on non-repeating thermal bridges in SBEM which of the following statements is incorrect?	Global thermal bridges fall into two categories: 1. Junctions involving metal cladding 2. Junctions NOT involving metal cladding.	The Thermal bridges sub-tab allows you to define 'global' Psi values for thermal bridges. Only these global values can be selected when defining a zone.	The global values can be selected when defining a zone or you define the thermal bridges separately for each zone	In SBEM you can enter an Psi value (W/mK) for each type of junction, or leave the default values.	B
<b>Building Fabric</b>						
23	Choose the most correct answer. If a building element has a high U value. Does this mean that:	The element will let heat through more readily	The element will let heat through less readily	The element will contain at least 50% glazing.	The element will store heat more readily.	A
24	How might an assessor confirm a buildings window construction? Choose ONE answer which is most true.	Date stamp in the gap within double/triple glazing	A manufacturers stamp pointing to certified data can be used as supporting evidence	Copies of invoices with technical characteristics of the window which clearly identify that the window relates to the building being surveyed	All of the above	D
25	What evidence is acceptable to substantiate information used in a BER?	Verbal evidence from the building owner which is noted and signed of	Reports of works carried out in the building from a supervising engineer or architect	A report on the works from the site or facilities manager	The assessor's judgement when carrying out a survey	B
26	Identify the ONE source of U-Value calculations which would NOT be acceptable for use in a non domestic BER.	From accredited technical product details	CIBSE Guide A: Environmental design.	BRE report BR 433 (2006) Conventions for U-value calculations	From trade brochures	D
27	When surveying and zoning a building	Add their floor	Create a new	Create a new	Ignore them as	C

	for SBEM analysis you will may come across spaces such as corridors or access areas, which are not serviced by a HVAC system but are likely to be indirectly conditioned by the surrounding areas due to the high level of interaction with those spaces. How would you treat them when entering them in to iSBEM software?	area to that of the adjacent conditioned space.	zone for each of the unconditional spaces and define the space as having no heating or cooling.	zone for each of the unconditioned spaces and considered them to be heated or conditioned (indirectly) by the same HVAC system that supplies the most important surrounding area.	they do not have a significant effect on the SBEM calculation.	
28	How would you as an assessor get a T Solar value for a particular window?	Use the window manufacturers figure for solar radiation perpendicular (normal) to the glazing (g perp)	Use the window manufacturers figure for solar radiation perpendicular (normal) to the glazing (g perp) ensuring that SBEM's time averaged monthly value is achieved by multiplying by 0.9 as necessary	Don't alter the default figure in iSBEM	Use the SEAI's figure for solar radiation	B
29	What would make you doubt a glazing U value of 5W/m2K in the documentation?	Sash windows	Wooden frames	Fixed glazing without opening lights	Metal bead between glass panes	D
<b>Building Services</b>						
30	If a LTHW boiler is selected as the primary heat source within iSBEM which fuel type is not given as an option?	Natural Gas	LPG	Anthracite	Electricity	D
31	In SBEM, the auxiliary energy:	Refers to the energy used for equipment in the building	Refers to the energy used for pumps, fans, and controls of the HVAC and domestic hot water systems in	Refers to the energy used for occasional lighting in the building	Does not count towards the building's CO2 emissions	B

			the building			
32	Which of these is a reliable source of effective seasonal heat generating efficiency for a multiple boiler installation where the boilers are of different types and ratings?	Calculation based on performance at 15, 30 and 100% system loads	Combustion efficiency measured during boiler service	Manufacturer's data	Average of authenticated testbed boiler efficiencies	A
33	If the default heating and mechanical cooling system is chosen, what would the system used by SBEM be?	Dual duct (constant volume) with gas heating	Terminal reheat (constant volume) with user choice of heating fuel	Induction system with user choice of heating fuel	Constant volume system (fixed fresh air rate) with gas heating	B
34	When an area has two lighting types occupying distinct parts of that area, how would you input these into SBEM?	Divide the zone into two	Carry out a full lighting design for the zone	Enter only one type of lighting	Enter lumens per circuit watt	A
35	You were given the original design data for a constant volume fixed fresh air system which indicated a specific fan power of 1W/l/s. What would lead you to seek confirmation of this figure?	Rumbling noise in the ductwork	Main supply air duct leaving the plantroom reduces to half its previous cross sectional to get through a builders work hole, then expands again	Rectangular section duct bends	Any of these	B
36	In iSBEM, which of the following tabs in the Building Service Form do you enter the lighting for the zone?	Lighting controls	Wind Turbines	Hot water	Zones	D
<b>Sustainable Technologies</b>						
37	Which of the following information is not required when inputting Solar Energy Systems into SBEM?	Orientation and Inclination of panels.	Aperture area of solar collector.	Gross area of solar collector.	The hot water system that the Solar Energy System connects to.	C
38	What does the term 'heat loss coefficient' refer to when defining Solar Energy Systems?	It is the overall heat loss coefficient of all the pipes between collectors and array pipes between the collector array and the solar	It is the heat lost in the pipes in the collector loop divided by the insulation levels on the pipes.	The dead leg value of the solar energy system.	None of the above.	A

		storage tank (s).				
39	What is the minimum information you required to enter a PV in iSBEM?	Type of PV	Area of PV	Orientation and inclination of PV	All of these	D
40	When inputting a biogas or a biomass LTHW boiler into iSBEM what field must be populated in order to indicate biogas or biomass?	Fuel Type	Heat Recovery	Heat Source	ECA list check box.	A
<b>BER Assessments</b>						
41	Due to the structure of iSBEM, a warning message about "unassigned objects" may appear. You can get more information about these from?	The compliance document	The assigned and unassigned objects reports	The data reflection report	The Quick Envelopes sub-tab	B
42	The 'project complexity' tab on the general form refers to:	The time taken to assess the building	The gross floor area of a building.	levels of complexity defined by SEAI. Variables include simplicity of ventilation, etc.	Levels of building complexity based on the perceived difficulty in gathering the required survey information	C
43	A newly built single storey office block with 10 zones has resulted in a G BER rating. Which of the following forms in iSBEM would have a greater impact on the results?	General	Building services	Geometry	Project Database	B
44	Part L requires all slab-on-ground floors should be provided with edge insulation to the vertical edge of the slab at all external and internal walls. This is to control the risk of thermal bridging at the edges of floors and the insulation should have minimum thermal resistance of?	0.5 m2K/W	0.6 m2K/W	0.7 m2K/W	0.8 m2K/W	C
45	After producing the BER report where would you find the xml file?	The root directory of your hard disk	Same place you have saved the nct file.	The D: drive on your computer	It can be accessed through the file tab in iSBEM	B
46	Choose the most correct answer. Switching from bio gas to oil as the fuel source for the heating system could be expected to:	Decrease the BER rating	Increase the Carbon Dioxide CO2 emissions rating	Decrease the Carbon Dioxide CO2 emissions rating	Make no difference to either the BER or the Carbon	B

					Dioxide Emissions rating	
<b>Advisory Reports</b>						
47	Which of the following statements is true?	It may be appropriate to exclude recommendations with a high capital cost which are not feasible to the client from the supplementary and advisory reports	It may be appropriate to exclude recommendations based on knowledge of the client's maintenance schedules	It may be appropriate to exclude recommendations arising from inappropriate assumptions based on the use of default values	It is not appropriate to exclude recommendations	C
48	How do you identify when a recommendation has been excluded from an advisory report by a BER assessor?	By viewing the edits to the building model	By reading the supplementary report which has colour codes for recommendations excluded by the BER assessor	The advisory report has a section which explains which recommendations have been excluded by the BER assessor	All of the above	B
49	What are the risks to the client involved in implementing the recommendations in the written advisory report without taking further advice from the assessor?	The client might expect all measures within each payback band to be of equal importance.	Some measures might not be relevant, unless the assessor has acquired detailed knowledge about issues that are not part of the BER analysis, has modified the recommendations appropriately, and has explained this to the client.	The client might dismiss the "other recommendations" added by the assessor because they are listed after the long payback measures.	All of these	D
50	Which of the following is NOT found in a BER advisory report?	Building Environment	Main heating fuel	Useful floor area	Carbon Dioxide Emissions Indicator	D

