14.6 Human/Computer Interaction

1. The designers of spreadsheet software must consider the psychological factors that affect the way in which the user will interact with the spreadsheet software. State **four psychological factors** the designers should consider and, for each one, use an example to show how this factor could be considered in the design of the spreadsheet software. (12 marks)

Factor (1) example in context (1) explanation/expansion (1)
☐user friendly (1) wizards (1) to guide user through use of complex functions (1)
☐provide short cuts for experts (1) hot keys (1) to access functions quickly (1)
☐give help to novices (1) onscreen link to help pages (1) to access if stuck (1)
☐make use of human memory (1) user can remember how to navigate (1) to required function (1)
☐make use of human perception (1) beep (1) if unavailable function selected (1)
max 4 x (3, 2, 1, 0)

2. The design of interfaces for human/computer interaction needs to take psychological factors into account. Using a different example for each one, describe how the following might be of benefit to the user:

(a) providing short cuts for experts (3 marks)
(b) giving assistance to novices (3 marks)
(c) making use of human long-term memory. (3 marks)

(a)
e.g. user can press e.g. ctrl + letter / function key (1) to gain rapid access to functions (1) + additional benefit (1) max (3, 2, 1, 0)
(b)
help / wizards / menus (1)
user can click on help/press F1 (1)
to get guidance to solve problem (1) max (3, 2, 1, 0)
(c)
menu structure (1)
users remember which functions are in which sub-menus (1)
enables all functionality to be accessed as series of limited selections (1) (3, 2, 1, 0)

3. List **four** psychological factors that need to be considered when designing human/computer interaction. (4 marks)

One mark per response , up to a maximum of four. The following are examples. Credit any reasonable response.

☐ *User-friendly or example*
☐ *Give help to novices or example*
☐ *Provide shortcuts for experts or example*
☐ *Make use of human long-term memory or example* **4 x 1 mark**

4. The following data is required to appear on an order form for an online flower shop:
Title, Initials, Surname, Address, Postcode, Phone number, Type of flower arrangement, Quantity, Cost.
(a) Use a whole page of your answer book to sketch a design for the order form. (3)
(b) Annotate your design to explain how it takes into account four psychological factors.(3)
Your annotation must identify each factor that you have considered. (8)

a)
Sketch has:
☐*all fields in the question included - in logical order (1) notate with .F. on final field*
☐*appropriate title (1)*
☐*corporate presence eg Logo (1)*
☐*indication of which fields are to be list boxes*
☐*distinction between ordering address/ recipient address (1)*
☐*payment details / methods (1)*
☐*Any other sensible field / button eg .go to checkout. / delivery options*
Any 3 x 1marks
b)
How factor has been considered (1) + Expansion (1)
Max of 4 if inadequate reference to the Design
Example answers:
☐*make use of human long-term memory (1) user can recall menu structure(1)*
☐*give help to novices (1) .help. button to get explanation and help user to learn (1)*
☐*user friendly (1) data entry cells / buttons in logical order (1)*
☐*short cuts for experts (1) hot keys to save / delete record / auto-fill(1)*
☐*make use of human perception (1) beep if required field not entered / red message explaining field still empty (1) 4 x (2, 1, 0) marks*