Stress in Illness - Mark Scheme

Q1.

(a)   **AO2 = 1**

These experiences are known as daily hassles (1 mark).   Accept hassles.

(b)   **AO2 = 4**

Research has shown that these daily hassles play an important role in our health. Unlike life changes, these daily hassles can have a greater impact. Paula is experiencing several hassles, such as losing things and having too much to do, and as the stress from these hassles accumulates, so her health may deteriorate. Being unable to sleep is a sign of stress, which further reinforces the negative relationship between hassles and illness.
A more biological explanation might focus on the fact that with continued stress the body's immune system is impaired.

1 mark for a basic statement of the relationship between stress / hassles and illness and a further 3 marks for elaboration of this idea (this could include theory and / or research evidence). The elaboration must be linked to Paula's situation.

Q2.

Please note that the AOs for the new AQA Specification (Sept 2015 onwards) have changed. Under the new Specification the following system of AOs applies:

- AO1 knowledge and understanding
- AO2 application (of psychological knowledge)
- AO3 evaluation, analysis, interpretation.

Although the essential content for this mark scheme remains the same, mark schemes for the new AQA Specification (Sept 2015 onwards) take a different format as follows:

- A single set of numbered levels (formerly bands) to cover all skills
- Content appears as a bulleted list
- No IDA expectation in A Level essays, however, credit for references to issues, debates and approaches where relevant.

AO2 = 4

There are a variety of different ways to answer this question: credit appropriate alternative answers.

Candidates could focus on critical life events as well as the underlying biological mechanisms. Research has shown that stress reduces the effectiveness of the immune system. People experiencing long-term stress are more likely to become ill and to take longer to heal than those who are not stressed. Sandy is experiencing two events that are on the SRRS and are known to be major stressors.

1 mark for a basic statement of the relationship between stress and the immune system and a further 3 marks for elaboration of this. For full marks, the elaboration must be linked to Sandy's situation. Credit can also be given to research evidence used to support / illustrate the explanation.

4 marks Effective explanation
Effective explanation that demonstrates sound knowledge of the effects of stress and the immune system as applied to Sandy's wound healing.
3 marks Reasonable explanation
Reasonable explanation that demonstrates knowledge of the effects of stress and the immune system as applied to wound healing.
2 marks Basic explanation
Basic explanation of the effects of stress and the immune system.
1 mark Rudimentary
Rudimentary, muddled, explanation of stress and the immune system, demonstrating very limited knowledge.
0 marks
No creditworthy material.

Q3.

Please note that the AOs for the new AQA Specification (Sept 2015 onwards) have changed. Under the new Specification the following system of AOs applies:

- AO1 knowledge and understanding
- AO2 application (of psychological knowledge)
- AO3 evaluation, analysis, interpretation.

AO3 = 2

This graph shows a fairly strong negative correlation between stress and white blood cell activity / the immune system. As the stress increases the immune functioning decreases. The following can all receive a mark: direction, strength, and a description of their relationship.

Q4.

[AO1 = 6   AO3 = 10]

Level	Mark	Description
4	13-16	Knowledge of the role of stress in illness is accurate with some detail. Discussion is thorough and effective. Minor detail and / or expansion of argument is sometimes lacking. The answer is clear, coherent and focused. Specialist terminology is used effectively.
3	9-12	Knowledge of the role of stress in illness is evident but there are occasional inaccuracies / omissions. Discussion is mostly effective. The answer is mostly clear and organised but occasionally lacks focus. Specialist terminology is used appropriately.
2	5-8	Limited knowledge of the role of stress in illness is present. Focus is mainly on description. Any discussion is of limited effectiveness. The answer lacks

		clarity, accuracy and organisation in places. Specialist terminology is used inappropriately on occasions.
1	1-4	Knowledge of the role of stress in illness is very limited. Discussion is limited, poorly focused or absent. The answer as a whole lacks clarity, has many inaccuracies and is poorly organised. Specialist terminology is either absent or inappropriately used.
	0	No relevant content.

Possible content:

- stress and illness linked due to the effects of stress on the immune system
- mechanisms of immunosuppression – sustained production of cortisol reduces immune function; interferes with activity of white blood cells (leucocytes); reduced ability to fight infection
- stress linked to cardiovascular disorders (heart problems, high blood pressure, etc), infections (colds), cancer
- immune function is shown to be compromised in vulnerable populations, e.g. carers, students at exam time
- epidemiological studies show greater vulnerability in people with stressful occupations, e.g. air traffic controllers
- knowledge of role of stress in illness embedded in evidence.

Possible discussion points:

- use of evidence to support arguments that naturally occurring or induced stress affect immune function / response
- some stress can have a beneficial effect on immune function
- problems of drawing firm conclusions based on correlational data
- behaviour / lifestyle factors are a confounding factor, e.g. diet, lack of exercise, alcohol consumption, etc
- individual differences (e.g. gender, personality type, hardiness) can mediate the responses of the immune system to stress, e.g. Type A more likely to experience stress-related CHD
- social support has been found to mediate effects of stress on illness
- discussion of implications, e.g. targeted strategies to reduce stress in vulnerable populations.

Credit other relevant material.

[16]

Q5.

Please note that the AOs for the new AQA Specification (Sept 2015 onwards) have changed. Under the new Specification the following system of AOs applies:

- AO1 knowledge and understanding
- AO2 application (of psychological knowledge)
- AO3 evaluation, analysis, interpretation.

Although the essential content for this mark scheme remains the same, mark schemes for the new AQA Specification (Sept 2015 onwards) take a different format as follows:

- A single set of numbered levels (formerly bands) to cover all skills

AO1 = 6

AO2 = 6

Research covers both theories and studies, thus candidates may focus on the more general nature of the relationship eg chronic stress leading to immuno-suppression; or they may focus on some of the specific studies into this relationship eg Cohen et al; Kiecolt-Glaser et al.

Evaluation can include methodological issues, such as the problems of correlational research, some of the studies were natural experiments; the problems with sampling bias. Other methodological problems could include a consideration of how the immune functioning was measured and what type of stressor was considered. Candidates might also consider that with some acute stressors, there may even be an increase in the immune functioning.

Animal research is acceptable as long as it refers to the immune system; for example Riley's mice. However, Brady's monkey is not a study of the immune system and therefore is not credit-worthy.

AO1 Knowledge and understanding	AO2 Application of knowledge and understanding
6 marks Accurate and reasonably detailed Accurate and reasonably detailed outline that demonstrates sound knowledge and understanding of research into stressrelated illness and the immune system. There is appropriate selection of material to address the question.	**6 marks Effective evaluation** Effective use of material to address the question and provide informed commentary. Effective evaluation of research. Broad range of issues and/or evidence in reasonable depth, or a narrower range in greater depth. Clear expression of ideas, good range of specialist terms, few errors of grammar, punctuation and spelling.
5 – 4 marks Less detailed but generally accurate Less detailed but generally accurate outline that demonstrates relevant knowledge and understanding. There is some evidence of selection of material to address the question.	**5 – 4 marks Reasonable evaluation** Material is not always used effectively but produces a reasonable commentary. Reasonable evaluation of research. A range of issues and/or evidence in limited depth, or a narrower range in greater depth. Reasonable expression of ideas, a range of specialist terms, some errors of grammar, punctuation and spelling.
3 – 2 marks Basic Basic outline that demonstrates some relevant knowledge and understanding but lacks detail and may be muddled. There is little evidence of selection of material to address the question.	**3 – 2 marks Basic evaluation** The use of material provides only a basic commentary. Basic evaluation of research. Superficial consideration of a restricted range of issues and/or evidence. Expression of ideas lacks clarity, some specialist terms used, errors of grammar, punctuation and spelling detract from clarity.
1 mark Very brief/flawed or inappropriate	**1 mark Rudimentary evaluation**

Very brief or flawed outline demonstrating very little knowledge. Selection and presentation of information is largely or wholly inappropriate.	The use of material provides only a rudimentary commentary. Evaluation of research is just discernible or absent. Expression of ideas poor, few specialist terms used, errors of grammar, punctuation and spelling often obscure the meaning.
0 marks No creditworthy material.	**0 marks** No creditworthy material.