BTEC TECH AWARD IN SPORT

Component 3 - Developing Fitness to Improve Other Participants Performance in Sport and Physical Activity

Mark Scheme (30 marks)

A1: The importance of fitness for successful participation in sport

A2: Fitness training principles

A3: Exercise intensity and how it can be determined

1. Which one of these options is a component of skill-related fitness? **(1 mark)**

- ✈ Speed
- ✈ Power
- ✈ Muscular Strength
- ✈ Flexibility

Mark 1 - Power

2. Circle the correct option to show whether the statement shown below is true or false.

Aerobic endurance is the maximum force that can be generated by a muscle or muscle group. **(1 mark)**

True False

Mark 1 - False

3. Define coordination. **(1 marks)**

Mark 1 – The ability to move two or more body parts under control, smoothly and efficiently'.

4. State the two types of balance and the difference between them. **(2 marks)**

Mark 1 – Naming Static AND Dynamic balance (0 marks for only one).

Mark 2 – static balance is when stationary and dynamic balance is when moving (words to that effect)

5. Emily is getting back into weight training following a lengthy knee injury. Explain what could happen if she does not consider her Individual Differences when designing a training plan? **(2 marks)**

Mark One – She could take part in intense training which could make her knee injury return or worsen.

Mark Two – This could lead her to becoming **demotivated** by the training.

6. Describe **one way** Emily could use the FITT principle in her training programme **(1 mark)**

Mark One – She could **increase** the frequency of training so that she begins with only one session per week, but gradually increases this so that improvement occurs.

Accept other appropriate answers

7. Jasper is a cyclist. He is going to use the FITT principle to apply overload to his training programme. Explain how Jasper can apply the principles of 'frequency' and 'intensity'. **(2 marks)**

Mark One – Jasper can apply 'frequency' by increasing the number of cycling sessions that he takes part in each week

Mark Two – Jasper can apply the principle of 'intensity' by cycling at a faster pace during his training sessions

8.a. What does the 'E' in the acronym 'RPE' stand for? **(1 mark)**

- Equipment
- Endurance
- Exertion
- Exercise

Mark One – Exertion

8.b. Use Borg's RPE Scale to answer the following questions:

i. Julie has completed a Parkrun and her RPE is 15. Estimate her heart rate. **(1 mark)**

Mark One – RPE * 10 = HR , 15 * 10 = <u>150bpm</u> ii. Max has a heart rate of 140bpm after completed a Parkrun. What is his RPE? **(2 marks)**

Mark One – RPE * 10 = HR therefore RPE = HR/10

Mark Two – 140/10 = <u>14</u>

9. Alec is 34 years old and is training for a triathlon. Calculate Alec's aerobic training zone? **(3 marks)**

Mark One – Aerobic training zone = 50-80% of maximum heart rate

Mark Two – Maximum heart rate is 220-Age, so Alec's heart rate is 220-34 = 186bpm

Mark Three – 50% of MHR = 93 BPM / 80% of MHR = 149 BPM = 93-149 BPM

10. Evaluate how a rugby player can implement specificity into their training programme in order to improve performance. **(3 marks)**

Mark One – Specificity is when training is matched to the requirements of an activity/sport

Mark Two – A rugby player can focus their training on improving the component of fitness 'power'. This may involve weight training or plyometrics

Mark Three – This will improve their performance as they will be more powerful in the skill of tackling/srummaging/sprinting with the ball

Accept other appropriate answers

10. A netball team have been learning about the principles of training. Giving a sporting example for each, explain what is meant by the terms 'variation' and 'reversibility'. **(4 marks)**

Mark One – Variation refers to altering types of training to avoid boredom and maintain motivation to train

Mark Two – For example a netball player may take part in both continuous training and interval training

Mark Three – Reversibility means gradually losing fitness and occurs to anybody who stops training

Mark Four - For example a netball player may miss two weeks of training due to illness and this may lead to reversibility

Accept other appropriate answers/examples

11. Assess the importance of high levels of aerobic endurance and agility when participating in a game of tennis. **(6 marks)**

Marking Guidance:

Level 3 (7-8 marks)

- A thorough discussion
- Excellent knowledge and understanding
- Analysis of the points made, showing logical reasoning throughout
- Justified conclusion (where required)
- Consistent use of appropriate terminology.

Level 2 (4-6 marks)

- An adequate discussion
- Sound knowledge and understanding
- Analysis of the points made with some logical reasoning - Some use of appropriate terminology.

Level 1 (1-3 marks)

- Demonstrates isolated elements of knowledge and understanding, there will be major gaps or omissions
- Few of the points made will be relevant to the context in the question.
- Limited evaluation which contains generic assertions leading to a conclusion that is superficial or unsupported.

Example Content

Importance of aerobic endurance when participating in tennis

- Aerobic endurance is the ability of the heart and lungs to supply oxygen to the working muscles.
- In tennis, a player is required to supply the working muscles with oxygen for long periods of time.

- For example, a match lasting 3 sets could take part over two hours and high levels of aerobic endurance will ensure the player does not become fatigued during this time.
- High levels of aerobic endurance will mean that a player will recover quicker following a match. This will mean that they will be ready to train or perform again after a short period of time.

- However, aerobic endurance is not the sole requirement in tennis. Other components such as coordination and power are also vitally important.

Importance of agility when participating in tennis

- Agility is the ability to move and change direction quickly whilst maintaining control.
- An agile player will be able to move swiftly in all directions and this will give them more time to react to the ball and to choose an effective shot

- A tennis court is relatively small in size which means that agility becomes much more important than other components of fitness, such as speed.
- Agility will enable a player to change their tactics and disrupt an opponents flow. For example a player with high levels of agility might come into the net more often in order to play drop shots or volleys.
- Combining high levels of agility, power and coordination would be highly beneficial in the sport of tennis.

Example points to include within a conclusion

- When comparing aerobic endurance and agility in tennis, both are highly important
- Agility is of the highest importance level due to the fact that it is required for almost every point.
- A player with poor aerobic endurance may be able to cover this up, to a degree, by taking time to recover in between points.