

Examiners' Report/ Lead Examiner Feedback

January 2018

BTEC Level 3 Nationals in Sport
Unit 2: Fitness Training and
Programming for Health, Sport and Well-
being (31525H)



Sport

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January 2018

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What is a grade boundary?

A grade boundary is where we set the level of achievement required to obtain a certain grade for the externally assessed unit. We set grade boundaries for each grade (Distinction, Merit, Pass and Near Pass). The grade awarded for each unit contributes proportionately to the overall qualification grade and each unit should always be viewed in the context of its impact on the whole qualification.

Setting grade boundaries

When we set grade boundaries, we look at the performance of every learner who took the assessment. When we can see the full picture of performance, our experts are then able to decide where best to place the grade boundaries – this means that they decide what the lowest possible mark should be for a particular grade.

When our experts set the grade boundaries, they make sure that learners receive grades which reflect their ability. Awarding grade boundaries is conducted to ensure learners achieve the grade they deserve to achieve, irrespective of variation in the external assessment.

Variations in external assessments

Each test we set asks different questions and may assess different parts of the unit content outlined in the specification. It would be unfair to learners if we set the same grade boundaries for each test, because then it would not take into account that a test might be slightly easier or more difficult than any other.

Grade boundaries for this, and all other papers, are on the website via this link:
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Unit 2: Fitness Training and Programming for Health, Sport and Well-being

Grade	Unclassified	Near Pass	Pass	Merit	Distinction
Boundary Mark	0	9	19	32	45

Introduction

This was the second series of the new Level 3 Nationals specification for Unit 2: Fitness Training and Programming for Health, Sport and Well-being. The unit is a combination of several previous QCF units such as Exercise, Health & Lifestyle, Fitness Training and Programming, Nutrition and Fitness Testing. There have been no major changes to the format of the examination from the 1706 series and certain questions responded particularly better than the previous series.

The task-based assessment followed the same format as the 1706 series with the emphasis this time being around a different scenario. The task-based assessment is split into 6 questions which are all open response answers and gained different marks.

Question 1 identified the different lifestyle factors of the chosen individual within the scenario as well as assessing the health monitoring test results. There was a total of 12 marks for this question. Question 2 covered the different lifestyle modification techniques that were appropriate for the individual and would gain a total of 12 marks. Question 3 would ask the learners to propose and justify nutritional guidance for the selected individual and would gain a total of 8 marks. Question 4 covered different training methods for the selected individual and would gain a total of 8 marks. Question 5 asked the learners to design weeks 1, 3 and 6 of a 6-week training programme taking into account the individuals training needs and would gain a total of 6 marks. The final question looked at giving a justification of the design of the training programme that learners had completed in the previous question and this would gain a total of 14 marks.

Introduction to the Overall Performance of the Unit

Learners have performed relatively well across the paper and to the style of assessment being carried out with certain questions responding better than the previous series. It was clear that majority of the learners had prepared for the task-based assessment in an appropriate manner through the preparation of their research notes which could be taken into Part B of the examination.

Question 1 responses performed consistently well across the board due to the amount of information that was available for the learners to discuss. Again, the scenario allowed for all of the lifestyle factors from the specification to be discussed and their implications on the health and wellbeing of the individual. All four health monitoring tests were also accessible from the scenario. Majority of the responses performed consistently well as learners had a lot of information that they could use within their answer.

Question 3 performed better this series as a considerable number of learners gave more specific nutritional guidance taken from the specification. Recommended Daily Allowance values for males, macronutrients and quantities, micronutrients and quantities and hydration were generally covered across the board allowing the responses to be of a higher quality.

Question 6, trait 2 performed better than the previous series with more learners giving responses around the design of the training programme and taking into account aims and objectives and the term periodisation.

Question 2 did not respond as well as expected as a considerable number of learners did not give specific lifestyle modification techniques taken from the specification. This paper only allowed for 2 major lifestyle factors that needed to be improved (Alcohol and Stress). There are many lifestyle modification techniques within the specification but learners seemed to only give one for each and some of these were not from the specification, making their answer very generic.

Question 2, Trait 3 of the mark scheme again did not answer particularly well as many learners did not give a prioritisation of the lifestyle factors and lifestyle modification techniques taking into account which ones were the most important and why.

Question 5 did not answer particularly well across the board as learners this series had to design a 6-week training programme for an athlete. Learners struggled with this concept and designing a training programme that demonstrated a thorough understanding of the principles of fitness training was very rare. There were a considerable number of learners that didn't state intensity values for the individual to work at.

For this examination series, the mark scheme for unit 2 had the following percentage weighting for the different questions and traits;

Question/Traits	1	2	3
1	35%	35%	30%
2	40%	40%	20%
3	50%	50%	
4	50%	50%	
5	40%	60%	
6	70%	30%	

This was taken into account when marking the learner work and placing their answers into the relevant mark bands to decide their overall score for each question. This percentage weighting for the mark scheme may change every examination series to come in line with the current scenario being applied.

Individual Questions

The following section considers each question on the paper, providing examples of popular learner responses and a brief commentary of why the responses gained the marks they did. This section should be considered with the live external assessment and corresponding mark scheme.

Q1

Majority of the marks would be gained if learners could identify both positive and negative lifestyle factors from the screening information and describe these comprehensively. The lifestyle factors that should be covered are Sleep, Diet, Exercise, Smoking, Alcohol, Stress and a Sedentary Lifestyle.

Learners should also be able to give a detailed analytical approach of the lifestyle factors identified for the chosen individual, leading to an interpretation of their impact on their health and wellbeing. The interpretation should have specific relevance to the health and wellbeing of the individual.

Learners also needed to give a detailed analytical approach and interpretation of the health monitoring test results of the chosen individual. The interpretation should be made specifically relevant to the individual and their health and lifestyle. All 4 health monitoring test results should be covered from Resting Heart Rate, Blood Pressure, Waist to Hip Ratio and Body Mass Index (BMI).

Taskbook

Please do not write answers outside the spaces provided.

You must complete all activities in this taskbook.

- 1 Interpret the lifestyle factors and screening information for Adam King.

(12)

According to Adam's screening information he does not smoke, this is a negative lifestyle factor. By not smoking Adam is reducing the chances of developing coronary heart disease, bronchitis and some ~~lung~~ cancers like cancer of the throat or lung cancer. The recommended amount is to not smoke at all.

Adam says that he experiences stress on a daily basis due to pressures of training and expectations of winning competitions. This is a negative lifestyle factor and the recommended amount of stress is none ^{at} all. By experiencing this stress Adam is increases his chances of developing stomach ulcers and angina due to narrowed arteries along with hypertension and stroke.

The recommended amount of sleep per night is 7-9 hours, Adam only gets around 5-6, lack of sleep is a negative lifestyle factor and having a lack of sleep

Increases the chances of developing depression, Overeating and heart disease.

A Sedentary lifestyle is when you exercise for less than 30 minutes per day, 30 minutes a day is the recommended amount of exercise. Adam says that he works ~~at~~ 5-6 hours everyday as a full time athlete so he does not have a sedentary lifestyle. This is a negative lifestyle factor and by Adam not having a sedentary lifestyle he is decreasing the chances of stress and ^{depression} ~~the overeating~~ strokes and heart diseases.

Mr King says he consumes 21 units of alcohol per week, the recommended amount is 14 units so he is over this amount. This is a negative lifestyle factor, and by drinking alcohol he is increasing the chances having a stroke and developing depression due to the lowered levels of serotonin in the body when alcohol is consumed, in excessive use brain tissue can die resulting in a stroke.

Physical activity is very important, as Adam participates in a high levels of physical activity he is reducing the chances of obesity which will be putting extra stress on the NHS, this is an economic factor. Social reasons for participating in physical activity is that it provides the opportunity to make friends while reducing isolation and increasing self-esteem. Some Psychological benefits of physical activity is that it decreases stress and the risk of developing depression. This is a positive lifestyle factor as Adam participates in more than 30 minutes of physical activity a day which is the recommended amount through long distance running.

A balanced diet is very important for a healthy lifestyle, this is a positive lifestyle factor. A balanced diet increases HDL ^(good cholesterol) and decreases LDL (bad cholesterol) in the body. By having a balanced diet Adam is decreasing the chances of type 2 ^{and} diabetes, heart disease. The recommended

(Total for Activity 1 = 12 marks)

114
21.16

Q1 amount for a balanced diet is 5 a day of fruit and vegetables and using the eatwell guide $\frac{1}{3}$ of your plate is made up of complex carbohydrates, and a $\frac{1}{3}$ is fruit and vegetables, with ² portions of fish with some beans and pulses. He has a variety in his diet through Jacket potatoes for carbohydrates, steak for protein, orange for ^{fruit} ~~fruit~~. Adam also consumes 3 litres of water the recommended amount is 6-8 glasses, however as he is an athlete more may be needed. Water regulates body systems and aids in transport, cell life and regulating body temperature, this decrease the risk of becoming dehydrated. Adam also consumes caffeine through tea and coffee, the recommended amount a day is 400mg, it has no nutritional values however can make someone more aware.

Adams blood pressure is pre-high of 119/81 mmHg this will increase his chance of developing strokes, damage to heart vessels, heart attacks and coronary heart diseases. This is affected by Adams alcohol ^{and} stress levels.

Mr Kings Resting heart rate is 45 bpm this is of an athletic level for his age and gender. This decreases the chances of developing heart diseases, stroke and damage to heart vessels. This is affected by stress, alcohol and activity levels.

Adams BMI is 18 suggesting that he is underweight. This is affected by diet, activity levels, alcohol and stress. This decreases the chances of developing strokes, heart diseases and type 2 diabetes. This ~~could~~ ^{could} be because ~~the~~ ^{the} ~~test~~

Finally his waist-~~to~~ hip ratio is 0.75 this means he is not carrying too much weight. This decreases the chances of developing strokes, type 2 diabetes and heart disease and is affected by alcohol and diet.

The learner has interpreted and described comprehensively all of the relevant positive and negative lifestyle factors from the screening information. Smoking, Stress, Sleep, Sedentary Lifestyle, Alcohol, Physical Activity and Diet have all been covered by the learner. This part of the answer has fallen into mark band 4 for trait 1 of the mark scheme.

The learner has also given a detailed analytical approach to the interpretation and impact of each of the lifestyle factors which has been made specifically relevant to the health and wellbeing of the individual. This part of the answer has fallen into mark band 4 for trait 2 of the mark scheme.

There has also been an analytical approach leading to the interpretation of the health monitoring test results and the interpretation has been made relevant to the individual. This part of the answer has fallen into mark band 3 for trait 3 of the mark scheme.

Activity 1

Assessment focus	Band 0	Band 1	Band 2	Band 3	Band 4
	0	1–4	5–7	8–9	10–12
Interpret lifestyle factors and screening information for an individual	No rewardable material	<p>Lifestyle factors are identified from screening information.</p> <p>An interpretation of the impact of the lifestyle factors might be attempted, however has limited relevance to the health and wellbeing of the individual.</p> <p>An interpretation of health monitoring test results might be attempted, however is generic, lacking relevance to the individual.</p>	<p>Positive and negative lifestyle factors are identified from screening information, and are described.</p> <p>Attempted analytical approach, leads to an interpretation of the impact of the lifestyle factors; interpretation demonstrates general relevance to the health and wellbeing of the individual.</p> <p>Attempted analytical approach leads to an interpretation of health monitoring test results; interpretation is generally relevant to the individual.</p>	<p>Positive and negative lifestyle factors are identified from screening information, and are described in detail.</p> <p>Analytical approach leads to interpretation of the impact of the lifestyle factors; interpretation demonstrates relevance to the health and wellbeing of the individual.</p> <p>Analytical approach leads to interpretation of health monitoring test results; interpretation is relevant to the individual.</p>	<p>Positive and negative lifestyle factors are identified from screening information, and are comprehensively described.</p> <p>Detailed analytical approach, leading to an interpretation of the impact of the lifestyle factors; interpretation has specific relevance to the health and wellbeing of the individual.</p> <p>Detailed analytical approach, leading to an interpretation of health monitoring test results; interpretation is specifically relevant to the individual.</p>

The learner could have picked up the one extra mark by giving a more detailed analytical approach of the interpretation of the four health monitoring test results against the normative data, making it specifically relevant to the individual within the scenario. This would have allowed the response to have fallen into band 4 for trait 3 of the mark scheme.

Q2

The higher band of marks were gained here for proposed lifestyle modification techniques that demonstrated specific relevance to the individual's lifestyle and their requirements. A learner should be able to give lifestyle modification techniques mainly based around reducing alcohol consumption and stress management techniques. Introducing a rest day into Adam's training programme as well relevant sleep strategies would also be considered here. High end marks would be given to a learner that suggested lifestyle modification techniques that are specific to the chosen individual and their lifestyle.

A learner will also be able to give a justification for the proposed modification techniques that are specifically relevant to the individual's lifestyle factors. The specification states several different lifestyle modification techniques for both alcohol consumption and stress management. Learners should be able to justify in detail at least one lifestyle modification technique from both stress and alcohol making them specifically relevant to the chosen individual in the scenario.

A learner should also be able to give proposals of lifestyle modifications that systematically link to the lifestyle factor analysis. The proposals given should demonstrate an understanding of significance, ie, which is the most important lifestyle modification technique and why.

This response gained 10 out of 12 marks.

2 Provide and justify lifestyle modification techniques for Adam King.

(12)

Adam needs to improve his sleeping as it's important that he's getting enough so that he's feeling better and this could help with his performance. Another factor Adam needs to improve ~~his~~ is his stress levels as he's ~~const~~ constantly stress which doesn't help when training and when big events are coming, which may put him off. He also needs to improve ~~his~~ Amount of units he drinks a week, because currently Adam is drinking 21 units per week when the government recommendation/guidelines is 14 ~~per~~ units per week for men. A lastly the final factor Adam needs to improve he could walk to work instead to driving as it's only 20 minute walk to work.

Adam is going to improve these four factors by certain strategies. Adam can improve his sleeping by taking not a drug ~~a~~ but herbals, which will make ~~him~~ him sleepy and help him to get to sleep. The importance of Adam getting more sleep is that it will allow his body to recovery and repair especially doing intensity training where potentially pull muscles and

These muscles need time to repair so can grow back stronger. Sleep can be linked into stress so if Adam improves his stress levels that may mean that he will sleep better so a ~~strategy~~^{strategy} that Adam could ~~improve~~ improve his stress level is developing coping or stress management techniques by having meditation. Alternative therapies ~~so~~ counselling and they can support ~~to~~ him and give him help and advice on how to manage his stress levels better. Adam does regular exercise which helps with stress as well because exercise releases hormones the feel good hormone called Serotonin, which makes you feel better and less stressed. Adam needs to reduce the Alcohol consumption of 21 unit to below 14 units. The strategies that he can use is counselling which are specialised trained therapist or AA which self-help group these could give him strategies on how he can reduce the Alcohol consumption, which causes stress so reducing alcohol may help with stress levels. And finally Adam could get more exercise and save money if he walked to work instead of

using the car, because his work is only 20 minutes away, which means he will get more exercise.

Overall the most important factor that Adam needs to improve is his sleeping, because the more sleep he gets it will then help with his stress levels which may mean if he's less stressed he will drink less alcohol. He needs more sleep for rest and recovery which is really important, because if he injures himself he needs time to recover therefore sleep is the most important factor as it improves other factors too.

The learner has proposed lifestyle modification techniques that demonstrate specific relevance to the individual's lifestyle and their requirements from the targeted scenario. Lifestyle modification techniques have been suggested around Stress, Alcohol and Sleep. The learner has given specific strategies to reduce alcohol consumption, stress management techniques and sleep strategies have also been covered within this answer. This part of the answer has fallen into mark band 4 for trait 1 of the mark scheme.

The learner has also justified the proposed modification techniques and made them relevant to the individual's lifestyle factors. The techniques that have been proposed have been justified in terms of the individual's lifestyle and work commitments. This part of the answer has fallen into mark band 3 for trait 2 of the mark scheme.

The lifestyle modification proposals do systematically and consistently link to the individual's lifestyle factor analysis and they do demonstrate a thorough understanding of significance. The proposals given by the learner have also been placed into a prioritisation through a relevant conclusion. The lifestyle modification techniques that have been proposed link to the individual's lifestyle factor analysis that was identified in Question 1. This part of the answer has fallen into mark band 4 for trait 3 of the mark scheme.

Activity 2

Assessment focus	Band 0	Band 1	Band 2	Band 3	Band 4
Proposed lifestyle modification techniques	0	1–3	4–6	7–9	10–12
	No rewardable material	Proposed lifestyle modification techniques are generic, with limited relevance to the individual's lifestyle or requirements. Justification for proposed modifications might be attempted, however has limited relevance to the individual's lifestyle factors. Linkage between proposals and factor analysis might be present.	Proposed lifestyle modification techniques demonstrate general relevance to the individual's lifestyle and requirements. Justification for proposed modifications is often present and generally relevant to the individual's lifestyle factors. Proposals link to lifestyle factor analysis, although there may be occasional lapses.	Proposed lifestyle modification techniques demonstrate relevance to the individual's lifestyle and requirements. Justification for proposed modifications is present and relevant to the individual's lifestyle factors. Proposals systematically link to lifestyle factor analysis; proposals demonstrate an understanding of significance.	Proposed lifestyle modification techniques demonstrate specific relevance to the individual's lifestyle and requirements. Justification for proposed modifications is present and specifically relevant to the individual's lifestyle factors. Proposals systematically and consistently link to lifestyle factor analysis; proposals may be prioritised, demonstrating thorough understanding of significance.

The learner could have picked up the extra two marks by giving a more detailed justification of each of the lifestyle modification techniques that have been proposed making them specifically relevant to the individual's lifestyle, health and wellbeing.

Q3

The proposed nutritional guidance should demonstrate specific relevance to the individual's requirements. The recommended daily allowance of calories for the individual should be stated and the fact that Adam is a full time long distance athlete should be taken into consideration here. Quantities and sources of food for both macronutrients and micronutrients must be proposed as well as hydration and the use of sports drinks and energy gels/bars. Carbohydrate loading can also be credited here.

The proposed nutritional guidance should be justified making it specifically relevant to the individual's dietary requirements for their sport. The fact that the chosen individual is a long-distance athlete must be taken into account.

This response gained 8 out of 8 marks.

3 Provide and justify nutritional guidance for Adam King to meet his specific requirements.

(8)

Dietary thermogenesis is energy expended over RMR for digestion, absorption, transport and storage of food. High energy and regular eating = higher dietary thermogenesis. This accounts for 10% of total energy per day. Adam BMR = $15.1 \times 692 = 10539.2$ which is a good and healthy BMR.

Physical activity represents most variable components of total energy expenditure. Energy above RMR and DT and active people can be the highest total daily energy use. Depends of lifestyle and the person themselves.

Eat well plate which is recommended by the UK government who promote a balanced diet say to have lower fat and sugar options such as chocolate and crisps in his food diary. Have 2 portions of fish a week with one being oily so Adam needs to add that in. Also eat more fruit and vegetables a day which he can do more of.

Energy balance is for mainly losing weight but his aim isn't to do this. Carbohydrates are a main component in his diet. Currently he eats ^{potatoes} potato, crisps, toast, pasta and chips. Normally this should be ~~be~~ lower but due to him being elite and endurance runner he needs at least 55% of his diet to 60% to be carbohydrates as he needs more energy. It helps with replenishment of glycogen store during recovery from exercise and also used during exercise. Simple carbohydrates are a quick source of energy absorbed quickly to the body. Eaten just before and during a race, it can be found in fruit and sugars. Complex carbohydrates is a source of energy broken down slowly released over a long period. Should be eaten 2 hours before and found in pasta, bread, rice and beans. Used in carb loading. Where 2 days before race eat more carbohydrates less fat and protein.

(Total for Activity 3 = 8 marks)

8

3

Making carbohydrates 85-95% of diet. Night before race small meal which is all carbohydrates. Race day breakfast should be 3 hours before = 150g of carbs. Protein has been shown in beans, chicken and steak within his diet. It should be 15% of diet for growth and repair of tissue. Complete proteins contain all 8 essential amino acids such as eggs, beef and milk. Incomplete protein is food with one or more of the 8 amino acids missing which is for growth and maintenance of tissue. Found in beans, corn and nuts. Fats were found in chocolate, crisps, cheese and chips in Adam's diet. It is recommended to have 30% of your diet to be fats as it provides energy, absorbs vitamins, maintains body temperature and protects the body. Saturated fat is bad fat as it raises your level of cholesterol in your blood. High levels of LDL cholesterol in your blood increase your risk of heart disease and stroke. ~~Unhealthy~~

3	<p>Found in cheese, butter and processed foods. Unsaturated fat found in high amounts in nuts, seeds, oily fish and vegetables.</p> <p>Water is used in cells in the body, organs and tissues to help with temperature and maintain bodily functions. Body loses water due to breathing, sweating and digestion. Dehydration is when body loses too much fluid. Due to sweating in exercise, vomiting and diarrhoea. Not drinking enough causes muscle cramp. Hyponatremia has more water than body can tolerate. Starting exercise like this improves thermoregulation. But can cause hyponatremia which is a fatal condition from low levels of sodium in body fluids. Recommended to drink 3-7 litres as he is an athlete so needs to drink more due to sweat loss. He drinks 3 litres which will be fine for him.</p> <p>Vitamins and minerals are a small but important part of your diet. In his diet found in apples.</p>
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3 carrots, broccoli and oranges. As he is a long distance runner the most important ones are calcium and iron for the strength of his bones. Calcium helps form and maintain healthy bones. It helps prevent osteoporosis and reduces clotting of blood. Found in milk, cheese. Iron is an essential element for blood production. 70% of body's iron is in red blood cells called haemoglobin and in muscles myoglobin which transfer O_2 to lungs in blood. Found in beef, lamb. Higher iron levels needed for Adam to help transport more O_2 to working muscle.

Ergogenic aid helps athlete perform. Adam mentions he does not use any supplements. ~~Energy~~ ^{protein drink} ~~gels~~ are used for production of muscle to manufacture hormones, enzymes and immune system components. This drink after workout takes 30 minutes to reach muscles. Energy gels help replenish depleted carbohydrate stores after exercise as body relies

3

on glycogen stores. To get to muscles needs to be digested and absorbed into muscles which is fast release of energy to be consumed 30 minutes before exercise. Sports drinks (isotonic) contain same concentration of glucose to water as blood. They have no effect on the volume of tissues or cells. They contain sodium making them quick to be absorbed. Useful for Adam to use.

It is important to eat breakfast as Adam does as it provides us with energy and provides us with nutrients such as protein and vitamins. Adam doesn't eat too late but if he did could cause weight gain, excretion needs and sleep patterns messed up. Eating every 3-4 helps with fat burning which controls appetite and balances stress hormones. Adam drinks one cup of coffee a day and it is recommended 4-5 a day. This means he

3	will have a better sleep, lower blood pressure and weight loss.
	Reducing salt reduces blood pressure and lower risk of heart disease. Recommended to have 6g of salt a day so Adam should check he is meeting this.
	Eating 5 fruit and vegetables a day helps maintain healthy gut and prevent constipation. High diet in fibre reduces risk of bowel cancer. Adam eats some of this five a day but can improve by eating more.
	Healthy alternative to this is swapping chocolate and crisp for some fruit and nut bar. Have steak and vegetables not chips.
44	

The learner has proposed nutritional guidance that demonstrates specific relevance to the individual's requirements of being a full-time athlete. The nutritional guidance is specific to the individual as they have covered all 3 macronutrients and their quantities, vitamins and minerals, hydration, ergogenic aids and sports drinks. Carbohydrate loading has also been mentioned by the learner. This part of the answer has fallen into mark band 4 for trait 1 of the mark scheme.

The learner has also justified the proposed nutritional guidance in detail and made it specifically relevant to the individuals' dietary requirements. The justification takes into account that the individual is a full-time athlete and that they take part in long distance running events. This part of the answer has fallen into mark band 4 for trait 2 of the mark scheme.

Activity 3

Assessment focus	Band 0	Band 1	Band 2	Band 3	Band 4
	0	1-2	3-4	5-6	7-8
Nutritional guidance	No rewardable material	Proposed nutritional guidance is generic, with limited relevance to the individual's dietary requirements. Justification for proposed nutritional guidance has been attempted, however shows limited relevance to individual's dietary requirements.	Proposed nutritional guidance demonstrates general relevance to the individual's requirements. Justification for proposed nutritional guidance is generally relevant to the individual's dietary requirements.	Proposed nutritional guidance demonstrates relevance to the individual's requirements. Justification for proposed nutritional guidance is relevant to the individual's dietary requirements.	Proposed nutritional guidance demonstrates specific relevance to the individual's requirements. Justification for proposed nutritional guidance is specifically relevant to the individual's dietary requirements.

The learner did not cover the recommended daily allowance of calories for the individual but their response was clearly still very specific and well justified to be given 8 out of 8 marks.

Q4

To gain maximum marks for this question learners should be able to propose training methods that demonstrate specific relevance to the individuals training requirements. A learner should be able to propose training methods based around Aerobic Endurance, Muscular Endurance and Flexibility/Core Stability. A learner should be able to propose training methods for Aerobic Endurance such as Continuous Training, Fartlek Training, Interval Training and Circuit Training. For Muscular Endurance, it could be Circuit training again as well as Fixed Resistance Machines and Free Weights. For Flexibility/Core Stability, it could be Static stretching, Dynamic Stretching, PNF, Yoga, Pilates and any Gym Based Exercises such as the plank. Responses that suggested training methods based around power and strength would also be considered with this specific scenario.

A learner should be able to justify the proposed training methods above making it specifically relevant to the individual's training needs. Learners should be able to state which methods of training would be most appropriate and why.

This response gained 7 out of 8 marks

4 Propose and justify different training methods that meet Adam King's training needs.

(8)

To meet Adams goals Adam needs to undertake the right types of training to meet his needs and requirements specifically. As he is a long distance runner, he will need to be working to improve his aerobic endurance, muscular endurance, and flexibility.

To improve aerobic endurance, he can take part in continuous training, this shouldn't need lots of equipment, is easy to do and will help achieve Adams goals by improving his respiratory system and cardiovascular system. This should be done at a medium intensity at around 60% of MHR. Fartlek training will also help to do this. Varying intensity on different terrains will also be relevant to Adam, and again it's easy to do with little equipment. Interval training will also help ^{improve aerobic endurance} by giving Adam rest periods in between high intensity work periods. This allows progressive overload so will see improvements and is specifically relevant to Adams needs and requirements.

To improve muscular endurance circuit training can be done which can be changed around to avoid tedium (boredom) and to target different areas of fitness. Work and rest periods can be altered to show progression and there's also chance for recovery. Resistance training will also improve muscular endurance by increasing size and strength of mitochondria for energy for aerobic respiration. Also they give a guided range of movement to reduce risk of injury. Weight training can also

be used with free weights, care must be taken however as there is more risk of injury with these. For Adam he must use high reps and low loads to improve muscular endurance. Adam could alternately use his own body weight for this type of training. This is specifically relevant to Adam's needs as it helps to improve muscular endurance which will enable him to reach his goals.

To improve flexibility, core stability training will help Adam. doing Yoga or pilates will benefit him to strengthen his core for better posture and balance. Also improves physical, mental and social wellbeing and increases fitness levels.

Breathing techniques incorporated in yoga may also help with Adam's stress management. Static and dynamic stretches are also a simple way to help Adam achieve his goals by improving flexibility. This will reduce his risk of injury and it is specific for his individual needs and requirements to reach his goals.

There is a '60:80' rule' for endurance athletes train 80% at a low intensity and 20% at high intensity to help meet goals and requirements.

(Total for Activity 4 = 8 marks)

The learner has proposed training methods for aerobic endurance, muscular endurance and flexibility/core stability showing specific relevance to the individuals training requirements and the scenario. The learner has discussed continuous, fartlek and interval training to improve the individual's aerobic endurance, circuit training and free weights for muscular endurance and finally yoga, Pilates, static and dynamic stretching to cover flexibility and core stability. This part of the answer has fallen into mark band 4 for trait 1 of the mark scheme.

The learner has also justified the proposed training methods making it relevant to the individuals training needs. The learner has stated the most suitable training methods for each of the main components of fitness that should be covered for the chosen individual and their training needs giving reasons why. This part of the answer has fallen into mark band 3 for trait 2 of the mark scheme.

Activity 4

Assessment focus	Band 0	Band 1	Band 2	Band 3	Band 4
	0	1-2	3-4	5-6	7-8
Training methods	No rewardable material	The proposed training methods are generic, with limited relevance to the individual's training requirements. Justification for proposed methods is attempted however, is not always relevant to the individual's training needs.	The proposed training methods demonstrate general relevance to the individual's training requirements. Justification for proposed training methods is generally relevant to the individual's training needs.	The proposed training methods demonstrate relevance to the individual's training requirements. Justification for proposed training methods is relevant to the individual's training needs.	The proposed training methods demonstrate specific relevance to the individual's training requirements. Justification for proposed training methods is specifically relevant to the individual's training needs.

The learner could have gained the extra one mark if they had justified in greater detail each of the proposed training methods making it specifically relevant to Adam and his individual training needs.

Q5

Majority of the marks for question 5 would be gained if learners could design a training programme that demonstrated specific relevance to all of the fitness requirements for the chosen individual. Learners must include Aerobic Endurance, Muscular Endurance and Flexibility/Core Stability activities within the programme design.

The training programme should also demonstrate a thorough understanding of the principles of fitness training, in the context of the individual's lifestyle or training requirements. The FITT principle must be applied in full detail to the programme, being specific with the intensity of the activities. Additional principles of fitness training must also be applied such as specificity, overload, progression, reversibility, rest and recovery, adaptation, variation and individual needs. Not all of the additional principles of fitness training need to be applied here but the programme must demonstrate a thorough understanding of these and that they have been taken into account when designing the 3 weeks of the 6-week programme.

This response has gained 6 out of 6 marks.

5 Design weeks 1, 3 and 6 of a six-week fitness training programme for Adam King.

Week 1

HR - heart rate
max - maximum

(6)
min - minutes

	AM	Physical activity [PM]	Evening
Monday	Continuous run Interval training 45 mins 75% of max HR	Circuit training 8 stations 30 secs (work/rest) repeat 3 times (1:1)	Pilates 30 min
Tuesday	Flexibility - static/passive/ dynamic stretches. 25 mins	Interval training 45 mins 80% max HR.	Rest
Wednesday	Continuous run 45 mins 75% of max HR	Flexibility static/passive/ dynamic stretches 25 mins	Yoga 30 mins
Thursday	Interval training 5x 1KM rep at 85% max HR.	Weight training 6 exercises: squats, lunges, calf raises, leg press 3 sets x 15 work/rest 1:1 60% of 1 rep max	Rest.
Friday	flexibility - static/passive/ dynamic stretches 25 mins	Rest	Continuous run 45 min 75% max HR
Saturday	Interval Training 5x 1KM reps at 85% max HR.	Circuit training 8 stations 30 sec work/rest 1:1 repeat 3 times.	Yoga 30 mins
Sunday	Rest day.		

Week 3

max - maximum
HR - heart rate
min - minutes.

	AM	Physical activity PM	EVENING
Monday	continuous run 50 mins 75% max HR	circuit training 10 stations 35 sec work/rest 1:1 repeat 3 times	Pilates 35 mins
Tuesday	flexibility static/passive/ dynamic stretches 30 mins	cardio training 50 mins 80% max HR.	Rest
Wednesday	continuous run 50 mins 75% max HR	flexibility static/active/ dynamic stretches 30 mins	Yoga: 35 mins
Thursday	Interval training 7 x 1 KM ^{rep} 85% max HR.	weight training 7 exercises squats, leg raises, leg press, lunges 3 x 15 18 work/rest 60% of 1KM 1:1	Rest.
Friday	flexibility active/passive/ dynamic stretches 30 mins	Rest.	Continuous run 50 mins 75% max HR.
Saturday	Interval training 7 x 1 KM ^{rep} 85% max HR	Circuit Training 10 stations 30 sec work/rest Repeat 3 times	Yoga 35 mins
Sunday	Rest	day.	

Week 6

HR - heart rate
max - maximum
min - minute.

RM - rep maximum

	AM	Physical activity PM	Evening
Monday	continuous / un 50 min 80% max HR	Circuit training 10 station 45 sec work / rest 1:1 repeat 3 times	Pilates 40 min
Tuesday	flexibility active/passive/ dynamic/PNF 30 mins	portlex training 50 min 85% max HR	Rest
Wednesday	Continuous run 50 mins 80% max HR.	flexibility active/passive/ dynamic/PNF 30 min	Yoga 40 min
Thursday	Interval training 3 7x 1 KM rep at 90% max HR.	weight training 7 exercises. 3 sets x 18 reps work/rest 1:1 65% max HR	Rest.
Friday	flexibility active/passive/ dynamic/PNF 30 mins	Rest	Continuous run 45 min 80% max HR.
Saturday	Interval training 3 7x 1 KM rep 90% max HR	Circuit training 10 station 45 sec work / rest 1:1 repeat 3 times	Yoga 40 min
Sunday	Rest day.		

The learner has designed a training programme that demonstrates specific relevance to all of the fitness requirements of the individual as they have included training methods for aerobic endurance, muscular endurance and flexibility/core stability. The learner has included continuous, interval and fartlek training for aerobic endurance, circuit training and weight training for muscular endurance as well as passive, static and dynamic stretching for flexibility and yoga for core stability. This part of the answer has fallen into mark band 3 for trait 1 of the mark scheme.

The training programme that has been designed has also demonstrated a thorough understanding of the principles of fitness training, in the context of the individual's lifestyle or training requirements. The learner has implemented the FITT principle each week and clearly stated the intensity for majority of the sessions. The training programme is specific to the individual and their needs and lifestyle as it is based around their sport. The programme progresses each week, has included rest and recovery days, has variation included with a variety of different training methods being used and the programme also takes the persons individual needs into account by including all of the relevant fitness requirements. This part of the answer has fallen into mark band 3 for trait 2 of the mark scheme.

Activity 5

Assessment focus	Band 0	Band 1	Band 2	Band 3
	0	1-2	3-4	5-6
Six-week training programme	No rewardable material	<p>The training programme is generic, with limited relevance to the fitness requirements of the individual. Certain requirements may be omitted.</p> <p>The training programme demonstrates a limited understanding of the principles of fitness training, in the context of the individual's lifestyle or training requirements.</p>	<p>The training programme demonstrates relevance to the fitness requirements of the individual, although not all requirements are covered.</p> <p>The training programme demonstrates an understanding of the principles of fitness training, in the context of the individual's lifestyle or training requirements.</p>	<p>The training programme demonstrates specific relevance to all fitness requirements of the individual.</p> <p>The training programme demonstrates a thorough understanding of the principles of fitness training, in the context of the individual's lifestyle or training requirements.</p>

There was a high percentage of learners that did not correctly apply the FITT principle to the training programme in question. Many learners did not state an intensity for majority of the sessions for the individual or include the bpm (beats per minute) or MHR (Maximal Heart Rate) where relevant.

Q6

A learner should be able to give a justification that demonstrates a thorough understanding of the principles of fitness training applied to their training programme. The FITT principle must be justified in relation to their training programme and again majority of the additional principles of fitness training should be justified such as specificity, overload, progression, reversibility, rest and recovery, adaptation, variation and individual needs in terms of the training programme that has been designed.

A learner should be able to give a justification that demonstrates relevance to the design of the training programme and the training requirements of the individual. Learners should be able to justify the aims and objectives of the training programme for the chosen individual as well as any personal goals and resources required. Periodisation should also be mentioned in the context of the design of the 6-week fitness training programme.

This response gained 13 out of 14 marks

6 Justify the fitness training programme that you have designed for Adam King.

(14)

From looking at Adams PAR-Q I have ~~not~~ come up with a training programme designed for him. I have varied the methods throughout to prevent boredom and to help with Adams recovery. I have chosen these lengths of training, methods of training and intensities of training to be specific to an elite level performer which Adam is. I considered the principle specificity when designing this training plan so it met Adams goals once he has completed the 6 weeks for example, I put in training methods to improve his speed, for example interval training, because he will need this ~~as~~ as an elite track runner. I also considered the principle progression when making this training programme so that he is gradually improving and getting better over time so that he can be the athlete he wants to be. I also considered the principle overload so he could push himself to the maximum and to ensure his body was adapting to the training. I also considered the principle reversibility, this was because I made sure ^{it} was gradually getting harder for his body to adapt but not so hard that he would injure himself and not be able to complete the training plan. I also considered the FITT principle.

Frequency, I didn't adapt to much I just modified the time and percentage as Adam was already training a lot and I didn't want to risk injury. I also had to allow time for rest so that his body could adapt to the training, rest and recovery. Intensity, I increased so that the training plan was getting progressively harder, I did this by increasing the time, volumes and ~~per~~ percentages. Time, I increased throughout the training programme - to ensure reversibility didn't occur and so that it was getting more intense for him. Type, I ~~ea~~ changed up all the different sessions and training methods, this was so that Adam didn't get bored and felt that the training was worth while as he was training everything and improving where he ~~needed~~ needed to. For example, his speed and lower leg muscles which he will need as an athlete. I also took into consideration the SMARTER principles. I made the training plan specific to Adam's goals and needs. I also made it measurable so that he could see where he was improving. This prevented Adam from quitting because he didn't think it was helping him. It was also achievable ^{and specific to him} because I took into consideration Adam's PAR-Q so I knew what he was capable of and the intensities that he was already working at so that I could

make it harder Realistic, so that Adam could actually take part and complete the programme without it being too hard or easy. Exciting, so that he didn't get bored or want to give up because he wasn't enjoying it and therefore didn't want to try. Recorded, so that he could monitor his progression and we could adapt it where needed if it was too hard or easy. This also allowed Adam to identify his strengths and weaknesses. Throughout the programme I also ensured^{ed} that he wasn't always working the same muscles and that he has rest times throughout the week to allow Adam's body to adapt to the training and allow rest and recovery. I designed this training programme by using a mesocycle which is the whole six weeks of the programme. I also used microcycles to change up the different weeks so it didn't get repetitive and boring. I did these microcycles in 2 and 3 week blocks. Overall, to ~~make~~ design this training programme I considered Adam's goals and PAR-Q to ensure it was specific and achievable.

The learner's justification has demonstrated a thorough understanding of the principles of fitness training that have been applied to the training programme. The learner has justified the FITT principle in relation to the training programme and the individual and they have also included majority of the additional principles of fitness training from the specification. They have commented on variation, specificity, overload, progression, reversibility, rest and recovery, and adaptation in terms of application to the training programme. This part of the response has fallen into mark band 4 for trait 1 of the mark scheme.

The justification given also demonstrates specific relevance to the design of the training programme and the training requirements of the individual. The learner has included personal goals of the programme for the individual and summarised this with the SMARTER acronym. They have also briefly mentioned and applied periodisation to the training programme and its design. This part of the answer has fallen into mark band 4 for trait 2 of the mark scheme.

Activity 6

Assessment focus	Band 0	Band 1	Band 2	Band 3	Band 4
	0	1-4	5-7	8-10	11-14
Provide a justification for the training programme that has been produced for an individual	No rewardable material	<p>The justification demonstrates a limited understanding of the principles of fitness training.</p> <p>The justification is generic with limited relevance to the design of the training programme, or the training requirements of the individual.</p>	<p>The justification demonstrates a limited understanding of the principles of fitness training applied to the training programme.</p> <p>The justification is generally relevant to the design of the training programme and the training requirements of the individual.</p>	<p>The justification demonstrates an understanding of the principles of fitness training applied to the training programme.</p> <p>The justification demonstrates relevance to the design of the training programme and the training requirements of the individual.</p>	<p>The justification demonstrates a thorough understanding of the principles of fitness training applied to the training programme.</p> <p>The justification demonstrates specific relevance to the design of the training programme and the training requirements of the individual.</p>

The extra one mark could have been gained if the learner had given further justification around periodisation and its application to the training programme design.

There was a considerable number of learners that did not include any principles of fitness training when it came to their justification. Learners spoke about their fitness training programme but only in terms of what they had included for each of the 3 weeks, making their justification show a limited understanding of the principles of fitness training.

Summary

- Please make sure that all centres read the Administrative Support Guide document for BTEC National in Sport that can be found on the Pearson Website.
- Centres need to print off a Learner Record Sheet for each learner taking the task-based assessment and these should be submitted with their learner booklet.
- Question 2 did not respond as expected as there were a considerable number of learners that did not give specific lifestyle modification techniques that were taken from the specification. Learners only need to comment on the lifestyle factors that need improving for the selected individual within the scenario.
- Question 2, trait 3 did not perform as well as expected. Learners need to link their lifestyle modification techniques to the lifestyle factors from question one and give a conclusion that prioritises the different lifestyle modification techniques for the chosen individual. This will allow for more responses to fall into band 4 of the mark scheme for trait 3.
- Question 5 did not respond as well as expected as it seemed learners found it more challenging to design a training programme for an athlete within the scenario for this exam series. Some learners planned for Adam to walk, run or even cycle to training to increase the amount of exercise that he does instead of concentrating on his training sessions for the different components of fitness to improve his ability to reach his goal.
- For question 5, ensure the FITT principle is fully applied to the training programme including the intensity. For any aerobic based activity, the intensity values must include either MHR (Maximal Heart Rate) or BPM (Beats Per Minute).
- For question 6, ensure that the learners are justifying the design of their training programme through the application of the principles of fitness training. Some learners are only commenting on what they have planned for on specific days and weeks instead of demonstrating their knowledge around all of the principles of fitness training.

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