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General Certificate of Secondary Education 2013

Physical Education

[G9741]

TUESDAY 14 MAY, AFTERNOON



TIME

1 hour 30 minutes.

INSTRUCTIONS TO CANDIDATES

Write your Centre Number and Candidate Number in the spaces provided at the top of this page.
Answer **all** questions.

INFORMATION FOR CANDIDATES

The total mark for this paper is 100.

Figures in brackets printed down the right-hand side of pages indicate the marks awarded to each question or part question. Quality of written communication will be assessed in questions 12 and 25(a).

| For Examiner's use only | | | | |
|-------------------------|-------|--|--|--|
| Page Number | Marks | | | |
| 2–3 | | | | |
| 4–5 | | | | |
| 6–7 | | | | |
| 8–9 | | | | |
| 10–11 | | | | |
| 12–13 | | | | |
| 14–15 | | | | |
| | | | | |

| Total | |
|-------|--|
| Marks | |

16–17 18–19



| 1 | Complete the statement below by choosing the correct word from the following list. Examiner Only Marks Remarks |
|---|--|
| | attitude happiness health |
| | awareness physical shock |
| | The World Health Organisation defines health as a state of |
| | complete, mental and social well-being. [1] |
| | |
| 2 | Over the past year, John ran lots of 10 km races. |
| | Underline the statement below that best demonstrates John's improvement in physical fitness. |
| | (a) John doesn't feel tired at the end of his 10 km races. |
| | (b) John keeps running the 10 km races with improving running technique. |
| | (c) John is not out of breath at the end of his 10 km races. |
| | (d) John's heart rate during 10 km races stays within his target heart rate zone. |
| | (e) John keeps running personal best times in his 10 km races. [1] |
| 3 | Which one of the following terms is most closely linked with learning a skill ? |
| | practice strength diuretics |
| | flexibility peaking relaxation |
| | The term is most closely linked with |
| | learning a skill. [1] |
| | |
| 4 | Calcium is a mineral that should be included in the food/drinks that we take as it helps keep our bodies functioning properly. |
| | Name one other major mineral that we need from our food/drink to help keep our bodies functioning properly. |
| | [1] |

| 5 | Which one of the terms, high in carbohydrate, high in fat, or high in protein best describes potatoes? | Examiner Marks I | r Only Remark |
|---|---|---------------------|------------------|
| | Potatoes are best described as being high in [1] | | |
| | | | |
| 6 | The number of kilocalories that a person needs depends on a number of factors. One factor is the person's metabolism . | | |
| | What is a person's metabolism? | | |
| | A person's metabolism is | | |
| | [1] | | |
| | | | |
| 7 | Which one of the following should be part of a normal, healthy diet? | | |
| | high salt intake high fat intake | | |
| | high fibre intake high sugar intake | | |
| | is linked with a healthy diet . [1] | | |
| 8 | Which one of the following terms is normally linked with long-term over-eating? | | |
| | anorexia nervosa obesity bingeing | | |
| | health bulimia malnutrition | | |
| | [1] | | |
| | | | |
| | | | |
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| | | 1 | |

| 9 | vvn | ich component of cigarette smoke: | | Examin Marks | er Only Remark |
|----|-----|--|------|-----------------|-------------------|
| | (a) | takes the place of oxygen in the red blood cells? | | Walks | Remark |
| | | | [1] | | |
| | (b) | carries the irritants that damage the cilia? | | | |
| | | | [1] | | |
| | (c) | raises the heart rate? | | | |
| | | | [1] | | |
| | | | | | |
| 10 | | nking too much alcohol over a prolonged period of time can affect a son's health. | | | |
| | | e one reason to account for the limit for "low-risk drinking" being up ee units per day for men but only up to two units per day for wome | | | |
| | | | | | |
| | | | | | |
| 11 | | te two effects that sleep deprivation (lack of sleep) can have on head/or performance. | ilth | | |
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| We all have personal characteristics that distinguish us from others, for example, introverts compared to extroverts. Likewise, sports have characteristics that distinguish them from others, for example, archery compared to ice hockey. | Examiner Only Marks Remark |
|---|--|
| Explain why the sport of archery may best suit introverts and why the sport of ice hockey may best suit extroverts. | |
| | _ |
| | _ |
| | _ |
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| | _ |
| | _ |
| | _ |
| | _ |
| [6 | 6] |
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| | |
| | characteristics that distinguish them from others, for example, archery compared to ice hockey. Explain why the sport of archery may best suit introverts and why the sport of ice hockey may best suit extroverts. |

| Exp | plain how regular and appropriate exercise can help with: | Examiner Marks I | r Only Remark |
|-----|---|---------------------|------------------|
| (a) | weight control, | | |
| | | | |
| | [1] | | |
| (b) | posture. | | |
| | | | |
| | [1] | | |
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| | Ellergy C | an be proc | aucea aero | bically or | anaerobica | lly. | Examiner Marks F |
|-----|-----------|--------------------|----------------------------------|---------------------------------------|-----------------------|--|---------------------|
| | • | | - | - | | st matches he by elite athle | |
| | Choose | from the fo | llowing eve | ents | | | |
| SI | not put | 100 m | 200 m | 800 m | 5000 m | Marathon | |
| | | | Ta | ble 1 | | | |
| | Aerobic | /Anaerobi | c Ratio | | Event | | |
| 5 | 50% Aero | bic/50% A | naerobic | | | | |
| 8 | 35% Aero | bic/15% A | naerobic | | | | |
| | 1% Aerob | ic/99% Ana | aerobic | | | | [3] |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | [3] |
| (c) | Running | can be eit | | | | robic activity. | |
| (c) | | | | obic activity | / or an anae | | |
| (c) | What ma | ıkes runnir | her an aerd ng an anae | obic activity | / or an anae rity? | | |
| (c) | What ma | ıkes runnir | her an aerd ng an anae | obic activity | / or an anae rity? | robic activity. | |
| (c) | What ma | is an ana e | her an aero | obic activity robic activ vity when _ | y or an anae rity? | robic activity. | |
| (c) | What ma | is an ana e | her an aero | obic activity robic activ vity when _ | y or an anae rity? | robic activity. | |
| (c) | What ma | is an ana e | her an aero | obic activity robic activ vity when _ | y or an anae rity? | robic activity. | |

| 15 | Nar | me the component of physical fitnes | s that: | | Examine Marks | er Only Remark |
|----|-----|--|-----------------------------------|-----|------------------|-------------------|
| | (a) | is determined by the ability of a mu contract and relax quickly. | iscle or group of muscles to | | | |
| | | | | [1] | | |
| | (b) | produces maximum force, or a con explosive effort. | siderable force, with speed in an | | | |
| | | | | [1] | | |
| | | | | | | |
| 16 | | ng the following list, choose the corress for each of the activities given b | | | | |
| | | Aerobic energy production An | aerobic energy production | | | |
| | | Muscular power Mu | scular strength | | | |
| | | Muscular endurance Fle | exibility | | | |
| | (a) | Sprinting flat out for 50 metres. | | | | |
| | | This is an example of | | [1] | | |
| | (b) | Slowly lifting a heavy object up off | the floor. | | | |
| | | This is an example of | | [1] | | |
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| 7 (a) | Explain how the heart rate reacts over a period of 30 minutes of continuous steady pace training. Use heart rates to help you expethis. | olain | Examine Marks | er Onl Rema |
|-------|---|-------|------------------|----------------|
| | | | | |
| | | _ [2] | | |
| (b) | Explain how the heart rate reacts over a period of 30 minutes of fartlek training. Use heart rates to help you explain this. | | | |
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| | | | | |
| | | _ [2] | | |
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| 10 | interval training can be used to imp | nove anaerobic inness. | Marks Rem | |
|----|---|---|-----------|--|
| | | workout. State two things you would ld change them to make the workout robic fitness . | | |
| | Interval training workout Distance: Intensity: Repetitions: Recovery time between repetitions | 200 m 75% of maximum heart rate 4 : 20 seconds | | |
| | | | - | |
| | | | - | |
| | | | - | |
| | | [6 | 5] | |
| 19 | Explain how static flexibility exerc | cises are performed passively . | _ | |
| | | ro | _ | |
| | | [2 | | |
| | | | | |
| | | | | |

| 20 (a) | Explain the principle of overload that is used to develop physical fitness. | | Examiner On Marks Rem |
|--------|---|-----|--------------------------|
| | | | |
| | | [2] | |
| (b) | Explain how the "FITT" principle can be used to apply the principle overload to improve physical fitness. | | |
| | | | |
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| | | [3] | |
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| 21 | (a) | | plain the two different ways you can use time and distance to s tests to monitor aerobic fitness levels. | set | Examine Marks | er Only Remark |
|----|-----|------|---|------|------------------|-------------------|
| | | Fire | st way | | | |
| | | | | | | |
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| | | | | | | |
| | | | | | | |
| | | | | [3] | | |
| | | Sec | cond way | | | |
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| | | | | | | |
| | | _ | | [3] | | |
| | (b) | | nich components of physical fitness would the following tests asure? | | | |
| | | (i) | Test 1 The number of press-ups or push-ups done in 60 secon | nds. | | |
| | | | This test would measure muscular | [1] | | |
| | | (ii) | Test 2 The Standing Broad Jump (two footed long jump) | | | |
| | | | This test would measure muscular | [1] | | |
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| 22 | (a) | $\label{eq:Ventilation} \mbox{ Frequency of breaths/minute} \times \mbox{volume of air taken in each breath.}$ | Examiner Only Marks Remark |
|----|-----|--|-----------------------------|
| | | When you start to exercise, e.g. run, your ventilation increases. Explain this. | _ |
| | | | _ |
| | (b) | As a result of regular aerobic exercise, you are able to take more oxygen into your lungs with each breath. Explain what physical changes take place to allow this to happen. | [2] |
| | | Explain what physical changes take place to allow this to happen. | _ |
| | | | <u> </u> |
| | (c) | As a result of regular aerobic exercise, the surface area for gaseous exchange is increased. Explain what physical changes take place to allow this to happen. | |
| | | | _ |
| | | [| [2] |
| | | | |
| | | | |

| 23 | Clearly describe four different things that a sports person can do to minimise the risk of getting injured from playing four different spo | | Examiner Onl |
|----|---|-----|--------------|
| | 1. Name of sport | | |
| | Action to minimise the risk of injury in this sport | | |
| | | [1] | |
| | 2. Name of sport | | |
| | Action to minimise the risk of injury in this sport | | |
| | | [1] | |
| | 3. Name of sport | | |
| | Action to minimise the risk of injury in this sport | | |
| | | [1] | |
| | 4. Name of sport | | |
| | Action to minimise the risk of injury in this sport | | |
| | | [1] | |
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(Questions continue overleaf)

| at w | tudy the following cool-down which was suggested as being appropriate ter a hard weight training workout in the gym. The purpose of the orkout was to improve muscular strength. Answer the question that llows. | Examiner O larks Re |
|---------------------------------------|--|------------------------|
| • • • • • • • • • • • • • • • • • • • | etails of the cool-down: Do 5 minutes hard running on the treadmill; 5 minutes hard cycling; 5 minutes hard rowing and 5 minutes hard work on a cross-trainer. This will provide a change from the weight training and will gradually lower the pulse rate. Do 2 sets of 30 repetitions for each of the exercises performed in the weight training workout but with a lighter weight (15 RM). This will be easy work for the muscles and will also help the person to develop muscular endurance. Do 2 minutes of mobility exercises for each of the major joints. These will warm up the synovial fluid surrounding the joints and allow the joints to move freely. Do static flexibility exercises to stretch the major muscles of the body. Hold each stretch for 20–30 seconds. Repeat each exercise once. Valuate (judge) the suitability of each stage of the cool-down. Explain hat you find right or wrong with each stage and what you would becommend should be done. | |
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| | Examii Marks | ner Only Remark |
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| | Walks | Kemark |
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| (a) State and briefly explain the advice that you would give to your friend with regard to the following: • The type of exercise that your friend should do in the workouts over the six weeks. • The method of training that would be most appropriate for your friend to use over the six weeks. • The frequency of the workouts over the six weeks. • The intensities of the workouts over the six weeks. • The times to be spent exercising in the workouts over the six weeks. | 25 | Your f | riend wants to complete a 10km charity fun run in 6 weeks time . riend can consistently and without too much effort run 10km in nutes, so the challenge is to complete this charity 10km run in nutes. | Examine Marks | r Only Remark |
|--|----|--------|---|------------------|------------------|
| over the six weeks. The method of training that would be most appropriate for your friend to use over the six weeks. The frequency of the workouts over the six weeks. The intensities of the workouts over the six weeks. The times to be spent exercising in the workouts over the six weeks. | | | | | |
| | | • | over the six weeks. The method of training that would be most appropriate for your friend to use over the six weeks. The frequency of the workouts over the six weeks. The intensities of the workouts over the six weeks. | | |
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| 11(1) | | | [10] | | |

(b) Apply your advice to what would, in reality, be done over the training period. Complete the following grid to show what your friend has to do in each work out. [9]

| Examiner Only | | | |
|---------------|--|--|--|
| Remark | | | |
| | | | |
| | | | |

| | Sun | Mon | Tue | Wed | Thu | Fri | Sat |
|--------|-----|-----|-----|-----|-----|-----|-----|
| Week 1 | | | | | | | |
| Week 2 | | | | | | | |
| Week 3 | | | | | | | |
| Week 4 | | | | | | | |
| Week 5 | | | | | | | |
| Week 6 | | | | | | | |

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