Physical Fitness

Health and Fitness
You have no colds, flu, aches or pains, and you can run 1500m in six minutes. But does that mean you are healthy and fit?

What is health?
Health does not mean the absence of sickness.

"Health is a state of complete physical, mental and social well-being, and not merely the absence of disease or infirmity."

It means you feel good all round.

Physical activity helps:

1. Your physical well-being
   • Your heart, lungs and other body systems grow strong and healthy and a lack of illness contributes to your enjoyment of life.
   • Your body shape improves – if you look good you feel good.

2. Your mental well-being
   • You learn how to cope with stress and difficult situations in sport and can then use this in real life, e.g. coping with the pressure of exams.
   • You learn to control emotions, as in sport there is an immediate penalty for the breaking of rules. It then helps you in real life, e.g. even if you feel really angry you still do not become violent.
   • You get the chance to feel emotions and experiences that you might not get elsewhere, e.g. success, skilfulness and the feeling of being important and worthwhile. Sport helps to give you self-esteem.

3. Your social well-being
   • Humans live in groups and we must learn social or group behaviour to fit in. Sport helps us with this by teaching us confidence, co-operation, communication and team work.
   • You meet people and learn friendship and support.
   • You get a feeling of worth, i.e. that you are of some value in society.

These kinds of well-being are all related. If you get injured in a car accident it may affect your mental well-being. It may also affect your social well-being, if you can’t work and lose touch with your friends.
**What Is Fitness?**

Fitness isn't just being able to do sit-ups or run fast.

“Fitness is a measure of the body’s ability to meet the demands of the environment.”

Your environment is everything around you. It includes home, school, family and friends. All of them make demands on you. Meeting the demands means carrying out tasks and activities. If you can carry out these tasks and activities **without getting too tired**, and still have energy left over for emergencies, then you are fit.

People’s environments make different demands on them. The demands of a top class sportsperson will include many hours of training a day.

**The link between health and fitness**

Health and fitness are closely linked. You cannot be healthy without being fit enough to meet the demands of the environment, e.g. a broken arm (poor physical health) means not being able to do you school work. However, it is possible to be fit but not healthy, e.g. you can physically manage your everyday tasks but are constantly depressed about not being good at anything. Remember, health is complete physical, social and mental well-being.

**Why exercise?**

Exercise is a form of physical activity, done primarily to improve one’s health and physical fitness.

There are many ways to take exercise. Walking, swimming, climbing, aerobics, golf, judo are just some of them. What can exercise do for you? Lots, there are physical, social and mental benefits (These will be looked at in more detail in a later module)

All the benefits mean that exercise helps you meet the demands of the environment easily. In other words it makes you fitter. You can work harder, feel less tired and enjoy life more. The way to improve your fitness is through exercise.
**Why Is Fitness Important?**

1) Improve sporting ability  
2) Improve the function of the body systems  
3) Reduce risk of heart disease  
4) Fewer muscle aches and pains after exercising  
5) Faster recovery from illness  
6) Increased ability to cope with social & mental problems

Fitness is a blend of physical qualities, known as components.

Fitness components can be divided into 2 categories:

**Health Related**

General fitness is sometimes called health-related fitness because it helps you to keep healthy, i.e. it helps to protect you against accidents, heart disease, stress, muscle injury and other health problems. We all need a minimum level of general fitness, just to cope with everyday life.
**Skill Related**

Skill related components help us to cope with the demands of sport. Specific fitness that allows the body to carry out set tasks effectively and efficiently.

![Skill Related Components Diagram]

Although a person may be fit from a health related point of view, they may not be fit for sport. A sports person needs to have sport or skill related fitness. To be successful in most sports it is important to be as fit as possible in a number of these areas.

**Health Related Fitness Components Definitions**

**Body Composition**

*The percentage of body weight that is fat, muscle and bone.*

If you have too much fat, or too little, you are unfit.

*Sporting example* – A sumo wrestler would have a high amount of body fat and muscle, where as a marathon runner would have a very low percentage of body fat.

A person’s body composition is determined by many factors including lifestyle, diet and the amount of exercise they do. How you’re built will also affect your body composition, however, your build or **Body Type** is genetic – you are born with it.

Our body type & body size indicate the kind of sports that we might be successful at.

There are three main body types: Endomorph, Mesomorph, & Ectomorph
We are all part endomorph, part mesomorph, & part ectomorph.

**Cardiovascular Endurance:**

"The ability of your heart to deliver oxygen to your muscles over a period of time."

This is also called aerobic fitness.

**Sporting example** – A football player needs good CV endurance to be able to run, tackle etc. for the duration of the game – 90 minutes.

**Flexibility**

"The range of movement around a joint."

This is sometimes called suppleness.

**Sporting example** – A gymnast needs good flexibility to be able to get their body into different positions.

**Muscular Endurance:**

"The ability to use a muscle or group of muscles over a sustained period of time."

**Sporting example** – A swimmer needs good muscular endurance of the shoulder and arm muscles to keep pulling through the water.

**Stamina is the body’s ability to keep going for long periods of time. It is a**

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**Suitable Sports:**

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combination of CV endurance and muscular endurance

**Strength:**
"This is the force muscles exert when they contract."

There are different types of strength - Dynamic, Explosive & Static.

- **Dynamic Strength/Muscular Endurance**
  "The ability of a single muscle or muscle group to work very hard for a long period of time."

**Sporting example** - A rower continually having to pull the oar through the water.

- **Explosive Strength/Power**
  "We require explosive strength when we want to move ourselves or objects as far and as fast as we can."

**Sporting example** - The take off during high jump.

- **Maximum Strength/Static Strength**
  "The maximum force that can be applied by a muscle or muscle group to an immovable object."

**Sporting example** - Pulling at tug of war or pushing in a rugby scrum.

**SKILL RELATED FITNESS COMPONENTS DEFINITIONS**

**Coordination**
"The ability to use your senses and body parts to perform motor skills fluently and accurately"

**Sporting example** - A tennis player needs co-ordination to be able to hit a ball that is travelling at speed.

**Reaction Time**
"The time taken to respond to a stimulus."

**Sporting example** - In a 100m race, the athletes start running at the bang of a gun - quicker reactions means the athlete can start running earlier.

**Agility**
"The ability to change direction quickly."

**Sporting example** - A squash player changing direction quickly to hit the ball.

**Balance**
"The ability to maintain equilibrium while still and moving"
- **STATIC** - "holding the body or part of the body still."
- **DYNAMIC** - "maintaining a position when moving"

**Sporting example** - Gymnasts and ice-skaters need a good sense of balance, and sports players possess balance when performing complex skills.

**Speed**

"The ability to perform a movement at speed."

**Sporting example** - A football player needs speed to get into space before defenders.

**Power**

"The ability to apply a high amount of force very quickly. This takes a combination of speed and strength."

**Sporting example** - A javelin thrower will demonstrate great power in the shoulder when throwing a javelin.

**Task** For each fitness component in the table below; explain its importance in a named sporting activity. [9]

<table>
<thead>
<tr>
<th>Fitness Component</th>
<th>Sporting Activity</th>
<th>Importance of the component to activity</th>
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<tbody>
<tr>
<td>CV Endurance</td>
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<td>Flexibility</td>
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<td>Muscular Endurance</td>
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<td>Strength</td>
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Past Paper Type Questions

1) Name two types of endurance and explain how they may be important to sportsmen/women. [4]
   A) __________________________________________________________
   __________________________________________________________
   __________________________________________________________
   B) __________________________________________________________

2) i) Define strength [1]
   __________________________________________________________
   __________________________________________________________

3) i) Name one skill related physical fitness component. [1]
   __________________________________________________________

   ii) Define the component [1]
iii) Give a specific example of its use within a sporting activity of your choice. [1]

4) “All sports have specific fitness requirements”
   Using an example, explain what this means. [2]

5) i) Give two reasons to explain why physical fitness is important for a sportsperson [2]
   I
   
   II

6) “In most sporting activity increased flexibility improves performance”
   i) Define Flexibility. [1]
   
   ii) Give two specific examples from a sporting activity where increased flexibility can improve performance. [2]
   I
   
   II
7) "Muscular endurance and cardio-vascular endurance are two health related physical fitness components"

   i) Explain why muscular endurance is important in a sporting activity of your choice

   Sporting Activity................................................. [2]
   __________________________________________________________
   __________________________________________________________
   __________________________________________________________

   ii) Explain why cardiovascular endurance is important in a sporting activity of your choice

   Sporting Activity................................................. [2]
   __________________________________________________________
   __________________________________________________________
   __________________________________________________________

8) "Health is a state of complete physical, mental and social well-being."

   In the table below explain how taking part in sporting activity can help a person’s physical, mental and social well-being. [5]

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10
9) a) Define the terms 'health' and 'fitness'.

Health: _______________________________________________________

_______________________________________________________________

Fitness: _______________________________________________________

_______________________________________________________________

b) Explain the relationship between health and fitness. [1]

_______________________________________________________________

_______________________________________________________________

_______________________________________________________________

_______________________________________________________________
You want to get fitter or improve your sport? Training is the answer.

Every training session you do should follow a set structure that ensures you get the best out of the session, and that the chance of injury is reduced.

The structure of a training session

Warm Up
Main Activity
Cool Down

1. Warm Up

There are 3 phases for a warm up to be correct:

- Phase 1 - Pulse raiser
  
  A steady jog for 5-10 mins.
  You will sweat in a good warm up.

- Phase 2 - Stretching
  
  This will help flexibility during the activity
  Reduce the chance of muscular injury.
  There are different types of stretching
  - Static
  - Passive
  - Dynamic
  - PNF

- Phase 3 - Mental Preparation.
  
  Activity related skills will help you prepare mentally for the activity.

2. Main Activity

This is the main body of the training session.
This is usually organised into a fitness section and a skills session
The skills session is completed after the skills so that the skills are practised while fatigued (tired).
The activities completed in the main part of a training session could be:
Continuous, fartlek or interval training for aerobic activity; an actual practice game; circuit training to develop muscle fitness; skill practices or technique breakdowns
3. **Cool Down**

This is the reversal of the warm up:

- Start with a few minutes of gentle exercise, e.g. jogging. This will:
  - help keep the blood circulation going, so more $O_2$ will reach the muscles and help to remove the build up of lactic acid in the muscles. This means less muscle soreness.
  - help prevent blood pooling. This stops blood collecting (pooling) in the legs and returns it to the heart.
  - help return body systems back to normal.
- Finish with some light stretching to loosen your muscles and prevent stiffness.
- Also recap mentally on the event. This will help improve performance in the future.

Your body has to repair any damage done to muscles during training. Stiffness and soreness take time to clear, but a good cool down will reduce the damage and allow you to take part in exercise sooner.

**Planning a Training Programme**

*A training programme is a series of training sessions intended to improving a person’s fitness and/or performance.*

*Before planning a training programme there are certain things you need to consider:*

- **The age of the person** - a programme that suits a 20 year old could harm a 14 year old.
- **The current level of health & fitness** - is the person overweight? Does the person exercise already? Are they generally fit? *Fitness testing may help you to assess some of these areas.*
- **Why do they want from the training programme** - Are they looking to improve some specific areas of fitness? Does the person need to include any skill development work?
- **What type of exercise do they enjoy** - if they enjoy doing it, they are more likely to stick to it.
THE PRINCIPLES OF TRAINING

Training is a programme of exercise designed to help you reach your fitness goals. Training needs to be done to maintain or improve fitness levels and skilled performances. For training to be effective the following principles must be applied. They are:

S – Specificity
P – Progression
O – Overload
R – Reversibility
T – Tedium

Specificity

The type of training must be specific to the sport that the athlete is training for. To improve in a sport, you must exercise the muscles and joints you use in the sport, and at the speed you use them. Every exercise has a specific effect on your body e.g. a biceps curl with a heavy weight will strengthen your arm muscles but will not affect your leg muscles at all.

To make sure your training is specific you must decide:

- Which muscles are being used in the sport?
- What energy system (aerobic/anaerobic) is being used in the sport?
- What fitness components are used in the sport?
- What skills are being used in the sport

You must then ensure that the specific muscles, energy systems, fitness components and skills are trained in your training sessions.

Progression

Your body takes time to adapt to increased demands placed on it. So you should build up your exercise level gradually or progressively. Training must get harder in little steps instead of giant strides.
You will notice the biggest changes early in your training programme. The fitter you get, the harder it is to gain further improvement.
If you keep training at a constant level your fitness will stay at that level.

**Overload**
To improve the fitness of a part of the body you need to make it work harder than usual, you need to overload it.
You can overload your body in the following ways:

- **F** → By increasing the **Frequency** of exercise (how often) You need to exercise more often → twice a week, then move up to three or four times.
- **I** → By increasing the **Intensity** of exercise (how hard). You increase the distance run, repetitions or weight lifted.
- **T** → By increasing the **Time** you spend on exercise. Work parts of your body for longer.
- **T** → By increasing the **Type** of exercise. You can change the exercises you are using - swimming instead of cycling, or type of training method.

**Reversibility**
Use it or lose it. Improvements in fitness are reversible. If you stop exercising you lose the improvements you made by training.
The body adapts to reduced levels of training, particularly fitness training, although well learned skills are not lost in the same way.
It takes only three or four weeks to get out of condition.

**Tedium**
To keep improving your fitness you need to vary the training so that you don’t get bored with training. It is important that you stay motivated while training.

Remember – training makes you fitter but over training can make you ill.
TRAINING AND HEART RATE

The harder you exercise, the faster the heart beats. So heart rate shows how hard you are working, and which energy system you are using. A lower heart rate indicates that you are using the aerobic energy system (with O$_2$), and a higher heart rate indicates that you are using the anaerobic energy system (without O$_2$).

The fastest your heart can beat is called your maximum heart rate.

Maximum Heart Rate = 220 - your age

Q. What is your maximum heart rate?

To improve the efficiency of your energy systems and improve aerobic or anaerobic fitness you need to train within a range of heart rates. This is your target zone.

- The intensity of training is very important:
  - Too little and the body does not need to adapt
  - Too much and the body cannot adapt

- The age and fitness level of an athlete determines a safe training zone:

Aerobic training

To gain aerobic fitness you must work between 60% and 80% of your maximum heart rate. This is called your aerobic training zone.

This is worked out as follows:

\[
MHR = 220 - \text{age}
\]

\[
\text{60% of } MHR = \frac{MHR \times 60}{100}
\]

\[
\text{80% of } MHR = \frac{MHR \times 80}{100}
\]

Aerobic training zone is between ________________ BPM
Anaerobic training

To gain anaerobic fitness you must work above the anaerobic threshold. Your anaerobic threshold is 85% of your MHR, which is

\[
MHR = 220 - \text{age} \\
85\% \text{ of } MHR = \frac{MHR \times 85}{100} = \quad \text{(Calculation)}
\]

To be working anaerobically your heart rate must be above \( \text{BPM} \) BPM

Remember the anaerobic threshold (above) will depend on your level of fitness, i.e. the fitter you are the higher your anaerobic threshold.

To gain anaerobic fitness gains you must follow the following guidelines:

- Use all-out effort
- Take turns using all-out effort and lighter effort or rest, so that your body has time to pay off the oxygen debt and remove lactic acid.
- Work above your anaerobic threshold.
METHODS OF TRAINING

There are many different types of training. All are based on how the body adapts to training.

There are five main training methods:

- Continuous Training
- Fartlek Training
- Interval Training
- Circuit Training
- Weight Training (Muscle Training)

1. Continuous Training

Training using whole body exercises for at least 30min at a constant steady pace, without rest. This should be repeated at least twice a week to gain any benefits.

Name three exercises using the whole body that would be suitable for continuous training:
1) _______________ 2) _______________ 3) _______________

Continuous training is good because it:

- Improves aerobic system  
  (Good for sports requiring high levels of cardio-vascular fitness)
- Good for burning off body fat
- No special equipment needed

Name two sports requiring a high level of cardiovascular fitness:
1) _____________________  2) _____________________

For health related reasons & to improve cardiovascular endurance:
Work rate at 60 – 80% Maximum Heart Rate (MHR)

You can overload this type of training by:

- _______________ the time  
- _______________ the distance
- _______________ the speed  
- _______________ the frequency
2. Fartlek Training

A training method developed in Sweden, meaning 'speed play'. It is a form of training involving many changes in speed, controlled by the performer.

The athlete controls the speed of the training.

Fartlek training can be adapted to suit many sporting activities e.g. cycling, running, skiing, swimming.

An athlete would build up to train over a distance greater than the competition distance.

Fartlek training is usually performed over different terrain to increase the overload and to help with motivation (stop tedium). E.g. Wooded areas, hills, sand, grass, track.

Example: part of a 30-min Fartlek running session.

3. Interval Training

Interval training is a combination of fast work interspersed with slow work or rest periods, laid out in a fixed pattern. Thus, Interval Training needs to be well planned. Rest periods are important to allow the body to recover from oxygen debt.

The athlete works in sets and reps.

A repetition is the number of times the exercise is repeated, e.g 5 reps

A set is a group of repetitions. e.g. 3 sets of 5 reps.
An example of an interval training session to improve acceleration at the start of a race:

<table>
<thead>
<tr>
<th>Set 1</th>
<th>Set 2</th>
<th>Set 3</th>
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<tbody>
<tr>
<td>30m sprint</td>
<td>20m sprint</td>
<td>10m sprint</td>
</tr>
<tr>
<td>30sec easy jogging</td>
<td>20sec easy jogging</td>
<td>10 sec easy jogging</td>
</tr>
<tr>
<td>(Repeat for 10 reps)</td>
<td>(Repeat for 8 reps)</td>
<td>(repeat for 6 reps)</td>
</tr>
<tr>
<td>2 mins rest</td>
<td>1 min 30 sec rest</td>
<td>10m sprint</td>
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</table>

You can overload this type of training by:
- _____________ the number of reps or sets or both
- _____________ the time for slow work
- _____________ the rest time between sets

**Aim of Interval Training:**
To increase your ability to produce short bursts of speed during competition. (Used in most sports - even marathon runners may have to produce a short burst of speed to break up the field).

4. **Circuit Training**

Circuit training can improve a range of fitness components and skills. Circuit training can be fitness based, skill based or a combination of both.

Circuit training involves performing different exercises/activities in a sequence. The sequence is the order in which the **stations** (exercises) are laid out.

The selected sequence is important to allow particular muscles time to recover, or focus on improving a particular muscle group.

Usually 8-15 stations are performed.

The length of work and rest time can be altered depending on the standard of performer.

**When planning a circuit training session, you need to plan:**
- What you want to improve (fitness component / skill)
- What exercises you are going to include
- Where each exercise (station) is going to go.
5. Weight Training
Weight training is a popular way to exercise muscles for several reasons:

1) Easy to tell what weight you are lifting (clearly marked, therefore fulfilling)
2) Easy to work on different muscle groups
3) Easy to overload
Training muscles involves pushing/pulling/lifting against a resistance, whether it is a physical weight or your own body weight.

Training for Different Types of Strength
- There are 3 different kinds of strength
- It is possible to train to improve each aspect:

<table>
<thead>
<tr>
<th>Static Strength</th>
<th>Dynamic Strength</th>
<th>Explosive Strength</th>
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<tbody>
<tr>
<td>Strength needed to push or pull a very heavy object.</td>
<td>Strength needed to keep a load moving over a long period of time</td>
<td>Strength required for an explosive movement</td>
</tr>
<tr>
<td>E.g. Holding a heavy weight above the head, tug of war, a scrum in rugby union.</td>
<td>E.g. Rowing, swimming…</td>
<td>E.g. High jump, hitting a ball, shot putt etc</td>
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For all sports you need a mixture of all three types of strength

Weight training can be used to improve all 3 types of strength but how much weight and how often you lift them will determine which type of strength is being trained and improved.
How Training Changes Your Muscles

<table>
<thead>
<tr>
<th>Strength Training</th>
<th>Endurance Training</th>
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<tbody>
<tr>
<td>• Makes muscles grow thicker</td>
<td></td>
</tr>
<tr>
<td>• Makes contractions stronger</td>
<td></td>
</tr>
<tr>
<td>• Does not make muscles thicker</td>
<td></td>
</tr>
<tr>
<td>• Muscles are better at burning fat &amp; using oxygen</td>
<td></td>
</tr>
<tr>
<td>• More capillaries grow around the muscle</td>
<td></td>
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<tr>
<td>• Muscles can work for longer</td>
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PERIODISATION

This refers to the athlete’s year. How they plan their training programme around the competition season or specific competitions. This is sometimes called peaking.

Peaking is a method by which highly trained athletes can achieve their maximum or peak performance at a particular competition (e.g. World Championships or Olympics).

Peaking allows the athlete to avoid fatigue and staleness.

Athletes must be very careful when deciding which events to compete in because of this.

The timing and method of peaking depends on the sport.

However to peak an athlete would normally:

1) Decrease the length of a training session
2) Decrease the frequency of exercises in a session
3) Increase the intensity of anaerobic training

Seasonal Training Programme

Some sports take part all year round e.g. gymnastics, but numerous sports are seasonal. Netball and football are played in the winter, whilst rounders and cricket are played in the summer. For the players the year is divided into stages. Each stage may very in length.

The stages are usually:

• Preparation – (i) out of season
- (ii) pre season
  - Competition
  - Recovery

This training in stages is called periodisation.

Preparation
(i) Out of season
Aim: to build up to a high level of fitness
- continuous training for aerobic fitness
- strength training for major muscle groups
- a healthy diet
(ii) Pre-season
Aim: peak fitness for sport
- Anaerobic training (short fast sprints)
- Extra strength & power training for key muscles
- Improving and refining skills with training circuits and practice matches

Competition
Aim: to perform well (win?)
- playing regular matches / competition
- maintain skill level & fitness levels
- care to avoid injury and fatigue

Recovery (recuperation)
Aim: to recover from competition and rest and relax
- break from exercise and mental strain of sport (holiday)
1) The statements below refer to the principles of training. Write the letter of the statement next to the principles below that best describes that principle. [5]

A) If you stop exercising you lose the improvements you made by training.
B) Your body takes time to adapt to increased demands on it. So you should build up your exercise level gradually.
C) To improve in a sport, you must exercise the muscles and joints you use in the sport, and at the speed you use them.
D) Vary your training so that you stay motivated.
E) To improve the fitness of a part of the body you need to make it work harder than usual.

<table>
<thead>
<tr>
<th>Principle</th>
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<td>Specificity</td>
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<tr>
<td>Tedium</td>
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2) What should you do during a cool down? [3]

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________________________________________________________________________________________
________________________________________________________________________________________
________________________________________________________________________________________
________________________________________________________________________________________
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3) How does Maximum Heart Rate (MHR) change with age [2]

________________________________________________________________________________________
4) For a sport of your choice, describe a structured training session (skill or fitness). In your answer you should include the order, time and type of activities involved.

5) Thomas is an ‘up and coming’ badminton player and is told that his standard of play will improve if he increases his level of fitness. He starts training 3 times a week, for an hour each session:

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<thead>
<tr>
<th>Week No.</th>
<th>Session 1</th>
<th>Session 2</th>
<th>Session 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Week 1</td>
<td>Running session</td>
<td>Speed work on court with shuttle</td>
<td>Weights session</td>
</tr>
</tbody>
</table>

a) Name which aspect of the FITT principle relates to each of the following: 

(i) an hour each session: ____________________________
(ii) 3 times a week: ____________________________
(iii) speed work on court with shuttle:________________________

b) Which principle of training needs to be applied to the programme to ensure that his fitness continues to improve?

_________________________________________________________

c) Which principle of training will apply if Thomas stops training for a couple of months?

_________________________________________________________

d) Which principle of training needs to be considered if he takes up basketball instead of badminton, and wants to plan a training programme for this activity instead?

_________________________________________________________
6) What training method is being detailed in the session below? [1]

<table>
<thead>
<tr>
<th>Activity</th>
<th>Duration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jog</td>
<td>5 min</td>
</tr>
<tr>
<td>Fast Walk</td>
<td>3 min</td>
</tr>
<tr>
<td>Fast run with 50m sprints every 200m</td>
<td>5 min</td>
</tr>
<tr>
<td>Jog</td>
<td>3 min</td>
</tr>
<tr>
<td>Even run with 10 fast strides every 200m</td>
<td>4 min</td>
</tr>
<tr>
<td>Uphill jog with 10 fast strides every minute</td>
<td>5 min</td>
</tr>
<tr>
<td>Fast skipping</td>
<td>3 min</td>
</tr>
<tr>
<td>Jog on the spot with high knee lifts</td>
<td>2 min</td>
</tr>
</tbody>
</table>

7) Explain how the principle of overload can be applied to each training method: [10]

Continuous________________________________________________________
______________________________________________________________
______________________________________________________________
______________________________________________________________
______________________________________________________________
______________________________________________________________
______________________________________________________________
______________________________________________________________
______________________________________________________________

Fartlek__________________________________________________________
______________________________________________________________
______________________________________________________________
______________________________________________________________
______________________________________________________________
______________________________________________________________
______________________________________________________________
______________________________________________________________

Interval________________________________________________________
______________________________________________________________
______________________________________________________________
______________________________________________________________
______________________________________________________________
______________________________________________________________
______________________________________________________________
______________________________________________________________

Circuit__________________________________________________________
______________________________________________________________
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______________________________________________________________
______________________________________________________________

Weight__________________________________________________________
______________________________________________________________
______________________________________________________________
______________________________________________________________
______________________________________________________________
______________________________________________________________
______________________________________________________________
______________________________________________________________

8) What is: [2]
   i) A rep? ______________________________________________________
   ii) A set? _____________________________________________________
9) “The majority of sports are seasonal and sportspeople train to reach peak performance during the competitive season”

Using a sporting activity of your choice suggest how you would prepare for the competitive season during:

(i) the off-season
(ii) the pre-season

__________________________________________________________________________
__________________________________________________________________________
__________________________________________________________________________
__________________________________________________________________________

10) a) Design a circuit of 8 stations to improve muscular endurance

Station 1 → Station 2 → Station 3 → Station 4 → Station 5 → Station 6 → Station 7 → Station 8

b) Suggest three ways of making this method of training more demanding.

(i) _______________________________________________________________________
(ii) _______________________________________________________________________
(iii) _______________________________________________________________________