

Nirmala Memorial Foundation Junior College of Commerce and Science	
SUB: HEALTH AND PHYSICAL EDUCATION	
XII Science/Commerce	2nd Term

1. MEANS OF FITNESS DEVELOPMENT

Fitness → Many people have an unrealistic idea of their level of fitness. Some exercise a lot without thinking about it and some exercise little and perceive themselves to be ultra fit "fitness is a combination of heart and muscle capacity to use oxygen for energy production." Another meaning of fitness is "A person completes his routine without fatigue, that means the person is fit."

A. AEROBIC EXERCISES:

Aerobic activities are a form of exercise, relatively of low intensity, to be performed for energy generating process. Aerobic literally means 'living in air'. It means use of oxygen to meet energy demands adequately, during exercises through metabolism. Light-to-moderate intensity activities that are sufficiently supported by aerobic metabolism can be performed for extended period of time. The intensity of the exercises should be at 60-85 % of maximum heart rate.

Running, jogging, cycling, swimming and walking at brisk speed are the activities, are the part of aerobic exercises. Aerobic activities having low intensity, must be carried out for longer duration by maintaining maximum heart rate.

BENEFITS:

Aerobic exercises provides conditioning to the heart and lungs, in which maximum intake of oxygen is required for body, enabling the heart to work more efficiently. Only by doing exercises you can't restrict the heart diseases, rather exercises are a risk reduction factor in preventing the heart disease. Other factors like, high BP, smoking, alcohol, high cholesterol level should also be controlled for being fit. There are other benefits of aerobic exercises as; conjunction with strength, training with proper diet will control the body fat level. It increases resistance power, reduces fatigue level, provides extra energy, tones muscles, gives lean body mass, relieves tensions and aids required sleep. It also improves the general stamina. Aerobic exercise benefit psychologically, by reducing depression level, changes mood and anxiety.

EXAMPLES OF MILD TO MODERATE AEROBIC ACTIVITIES:

- Take a short walk around the block
- Rake leaves
- Play actively with the kids
- Walk up the stairs instead of taking the elevator
- Mow the lawn
- Take an activity break get up and stretch or walk around

EXAMPLES OF HIGHER INTENSITY AEROBIC ACTIVITIES:

- Brisk walking
- Jogging
- Bicycling
- Swimming
- Aerobic Dancing
- Racket sports
- Rowing
- Ice or roller – skating
- Cross – country or downhill running
- Using aerobic equipment (i.e. treadmill, stationery bike)

B. PARTICIPATION IN GAMES AND SPORTS:

Generally everyone likes to play some sort of sport/game either outdoor or indoor. There are various sports and games activities in which one can participate as per ones liking. Athletics, ball games racket games, brain games, power games, muscle games and so on. One has to

come out of time constraint and participate actively in at least one game/ sport. Once the person gets involved in these activities, he will feel the changes taking place in his attitude. The person will get refreshed; his body will get toned, increase in stamina and change in mood. It is a good remedy for depression, anxiety, loneliness and removal of obesity factor, increase ones immunity; all this is possible through participation in any sporting activity.

C. CIRCUIT TRAINING:

"Circuit training is the training method in which certain exercises of various kinds are performed with or without an apparatus with given dosage."

The circuit training seeks to develop endurance and strength simultaneously. Flexibility and mobility are also its objectives.

• Characteristics of Circuit Training Method:

1. Exercises are simple to learn and simple to execute.
2. Exercises are performed with medium resistance or with medium weight.
3. More number of repetitions.
4. Aims at developing of endurance and strength.
5. Whole body exercise.
6. It is given to the sportsmen during their preparatory period for developing basic endurance and strength
7. Performed under gradually increasing strain.

• Examples of Circuit Training Exercises:

1. Running on the spot.
2. Throwing medicine ball and catching it again 15 to 20 times.
3. Split squat jumps 15 to 20 times.
4. Carrying weight or partner on shoulder 30 to 50 meters.
5. Chin - ups 5 to 10 times.
6. 100 meter run with sub- maximum speed.
7. Push-ups 10 to 20 times.
8. Standing jumps 10 to 20 times.
9. Sit - ups from supine position 10 to 20 times.
10. Rope skipping 1 to 2 minutes.
11. Dips 15 to 20 times.
12. Half squats with weight.
13. Rope climbing once or twice.
14. Other exercises- These include climb - bells. Bar - bells, free - hand exercises, frog jumps, different weight training exercises and hurdling, etc.

• Advantage of circuit Training:

1. It can be performed both indoors and outdoors. In the rainy season it can be done indoors.
2. Its equipments can be easily powered.
3. It is easy to learn as a trainee can learn to train himself.
4. The trainee gains good result in a short period.
5. It is an interesting method of training.
6. It does not require long duration to perform exercises.
7. A number of athletes can do circuit training according to the stations at the same time.
8. The coach can easily watch and supervise the training.
9. Amount of training can be increased according to the ability of trainees.
10. Every body - part can be exercised.

2

OBESITY

"Obesity is defined as a disease process characterized by excessive body fat accumulation with multiple organ - specific consequence". Obesity is a complex, multifactorial condition in which excess body fat may put a person at health risk. Worldwide, obesity trends are causing serious public health concern and in many countries threatening the viability of basic health care problems. It is an

independent risk factor for cardiovascular disease and significantly increases the risk of morbidity and mortality.

Increasing evidence suggests that obesity is not a simple problem of will power or self control but a complex disorder involving appetite regulation and energy metabolism that is associated with a variety of co-morbid conditions. Lifestyle patterns are influenced by an overabundance of energy dense food choices and decreased opportunities and motivation for physical activity. The genetic, metabolic, biochemical, cultural and psychosocial factors contribute to obesity. In most cases however, the increasing prevalence of overweight and obesity reflects changes in society and behaviors over the past 20 to 30 years.

A. REASON OF OBESITY:

1. Improper diet →
This is the main reason for obesity. Eating junk food, oily and spicy food is also a reason for obesity and the most important reason is lack of exercise which leads to obesity.
2. Improper food intake during childhood →
If proper diet is not maintained in our childhood then the fat in the body may increase leading to obesity.
3. Lack of exercise →
Lack of exercises is also one of the reasons for obesity.
4. Hereditary →
If a parent has the problem of obesity then child can also have the same problem.
5. Environmental Factor →
Environment affects our body. Luxurious life, lack of movement leads to obesity, no proper food intake, etc. also does. sitting for a longer time in one place leads to obesity, watching T.V. eating
6. Digestive Process →
Improper digestion leads to obesity.
7. Intake of medicine for a longer time →
Taking a lot of medicines also increases fat in our body, there are some chemicals in medicines which increase the fatty tissues in our body which lead to obesity.
8. Set point theory →
To reduce level of obesity proper weight of our body according to our age is required proper weight according to age is known as set point.

B. CHARACTERISTICS FOR OBESITY MANAGEMENT:

1. Balanced calories in our body will manage obesity.
2. Reducing fat level of the body will help manage obesity.
3. No. of count of tissue will manage obesity.
4. Gaining energy and increasing the level of carbohydrates up to 60% and reducing level of fat.
5. Eating proper food and maintaining a level of carbohydrates, protein, oil and fat in our body can help manage obesity.

C. PRECAUTION FOR REDUCING OBESITY:

1. Eat only when you are hungry.
2. Maintain a proper diet according to the time.
3. Don't eat any food which is harmful for us anytime, anywhere.
4. While eating chew the food properly.
5. While eating avoid other works such as reading, watching T. V. etc.
6. Eat a lot of vegetable salads.
7. Don't drink water while eating. After you wake up in the morning, drink lot of water.
8. Avoid spicy and junk food.
9. Avoid fatty foods specially oily food.
10. Do exercise properly.
11. Sleep at least 6 hrs. a day.
12. Avoid laziness, do hard work.

13. Eat food which contains balanced levels of carbohydrates and protein.
14. We can control on our hunger by consuming proteinaceous food.
15. Lose your calories while exercising your body.
16. Increase your level of exercises day by day.
17. Maintain your exercise daily.
18. There are a lot of programmes on obesity. By attending those workshops we can reduce obesity.

3. BONE AND JOINT INJURIES

Human Body, which is seen from outside is not same inside. If skin, muscles and all parts are taken out, the only thing which we see are bones. Bones are the most strongest parts of our body. Being white in colour they are very hard in nature. But they are hollow inside therefore they are light in weight some parts of them are filled with bone marrow cells.

- 1) Flat Bones – skull Bones
- 2) Long Bones – femur thigh bone
- 3) Round Bones – Patella
- 4) Small Bones – Bones of Fingers
- 5) Spine Bone – vertebrae
- 6) Triangular Bone – Sacrum

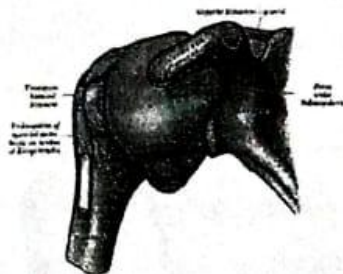
Types of Joints:- (1) Synovial Joint (2) Synarthroses (Fibrous Joint)

(1) **SYNOVIAL JOINT (DIARTHROSES) OR FREELY MOVABLE JOINTS:-** Finger Joint, Hinge Joint, Pivot Joint.

(a) **Ball and Socket Joint:-**

The spherical head of one bone fits into a cup shaped socket of other bone. These joints are prone for easy dislocation or separation on sudden strain. These Joint allow multi axial movements. The Shoulder Joint allows rotatory or circular movements. (360°) and Hip Joint allows straight movement (180°) Shoulder Joints, Hip Joint etc are examples of ball and socket Joint.

DIAGRAM



(b) **Hinge Joint:-**

Spoon shaped surface of one bone fits into the concave cavity of other bone. There are strong collateral ligaments. These Joints resist dislocation. These Joints allow uniaxial movements and resemble the movements of door and window. In elbow Joint the ulna works as hinges so only forward movements are possible. In the knee Joint the patella or knee cap works as hinges so only backward movement is possible.

and may permit moulding during childbirth. Usually these Joints are the places of growth. When growth period is over these joints tend to ossify.

Examples → 1) Sutures of skull, 2) Syndesmoses 3) Gomphosis/ peg and Socket Joint.

BONE AND JOINT INJURIES:-

Players while playing mix different type of movements due to which body faces jerk and weight of different parts of body. Which can also leads to dislocation of joints and breakage of bones.

REASON OF INJURIES:-

In this simple knocking, back knocking, ligament spraining, bone breaking or Joint dislocation takes places.

TYPES OF FRACTURES OF BONE:-

a) Simple Fractures:-

In this type of fracture, bone breaks and does not tear out and skin does not get burnt. Therefore, there is no intense pain.

b) Mixed or Compound Fractures:-

In this type bone breaks and moves out of the skin which leads to bleeding and leads to acute pain.

c) Complex Simple or Mixed Fractures:-

In this type the Arteries are affected and punctured, due to which it affects to other organs also. It leads to intense pain and death.

FIRST AID TREATMENT:-

- 1) Fractured part of body should be stabilized
- 2) Provide pain reliever.
- 3) Provide proper position to the patient.
- 4) Provide medical facility as soon as possible.
- 5) Players should not be allowed to move.

4.	Aesthetic in sports
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The term aesthetics comes from the Greek "aisthetike" and was coined by the philosopher Alexander Gottlieb Baumgarten in 1735.

"O Sport you are beauty! You, the architect of this house, the human body, which may become abject or sublime according to whether it is defiled by base passions or cherished with wholesome endeavor. There can be no beauty without poise and proportion and you are the incomparable master of both, for you create harmony, you fill movement with rhythm, you make strength gracious and you lend power to supple things."

-COUBERTIN

Aesthetics is a branch of philosophy that is concerned with the nature of art and the criteria of artistic judgment.

A. HOW AESTHETICS COULD BE USED IN SPORT?

When we watch any sports activity, either on an idiot box, on any sports field, ground, while at work place from the window, door or from anywhere. What do we watch? We watch the sporting skills of the players, their dedication, involvement, sporting spirit, sports man ship, their encouragement to other players, appreciation of skill exploration, game tactics, strategy looks, style, courage and so many things. We get pleasure through those observations. After the observation, we discuss the whole thing with the people around us, like friends, neighbors, relatives, co-passengers, etc. During the discussion we criticize, some act, or we admire the act, during the discussion we come across different opinions, but one thing we see in common is that everybody tries to defend his/her statement. For example - If Sachin Tendulkar is playing a one day cricket match and if he gets out at 99 runs, then the people who were watching the game may have different opinions about his getting 'out', but the conclusion comes strongly that we get pleasure out of it. Aesthetics is nothing but the pleasure giving actions. Who takes it in what manner depends on his/her way of thinking. The universal ideas of aesthetics in sports also includes:

1. Expertise or virtuosity. Technical artistic skills are cultivated, recognized and admired.
2. Non utilitarian pleasure. People enjoy art for art's sake and don't demand that it keep them warm or put food on the table.

3. Style. Artistic objects and performances satisfy rules of composition that place them in a recognizable style.
4. Criticism. People make a point of judging, appreciating and interpreting work of art.
5. Imitation. With a few important exceptions like music and abstract painting, works of art simulate experiences of the world.
6. Special focus. Art is set aside from ordinary life and made a dramatic focus of experience.
7. Imagination. Artists and their audience entertain hypothetical worlds in the theatre of their imagination.

B. SPORTS AND PHYSICAL EDUCATION A MEANS OF AESTHETIC EDUCATION:-

Aesthetics, the study of the philosophy of beauty, is not commonly thought of as a factor in the sporting education. It can be surprising therefore to find that sport and physical education provide innumerable opportunities for increasing aesthetic awareness. An aesthetic education can be attempted through the medium of the senses – visual, musical, verbal and physical. It is the 'physical' aspects of an aesthetic education which tends to be neglected despite the Athenian ideal of proportion, harmony and moderation – a philosophy pervading theoretically, traditional "Western" educational thought. One area of physical education, dance, has of course not neglected aesthetics, and there is an increasing importance of educational dance in modern education. Gymnastics, at Olympic level has become "artistic gymnastics" calling for musical feeling imagination, and creative originality. Diving, skating and other physical skills which demand a highly refined kinesthetic sense, can also reach heights which are generally accepted as truly artistic. However, there are millions of ordinary people who do not watch the more sophisticated sports, neither do they attend theatre, opera, symphony, or art gallery. They do watch football, the male element anyway, literally for the millions of aspirants.

5. SPORTS AND CULTURE

The history of sports in India dates back to the Vedic era. Physical culture in ancient India was controlled & fed by a powerful fuel – religious rites. There were some well-defined values like the mantra in the *Atharva – Veda*, saying, "Duty is in my right hand and the fruits of victory in my left". In terms of an ideal, these words hold the same sentiments as the traditional Olympic oath: "..... For the Honour of my country and the Glory of Sport." The founders of the Olympic idea had India very much in mind when they were deciding on the various disciplines. There is a fascinating link between Greece and India which stretches back to 975 B.C. the zest for chariot-racing and wrestling was common to both the countries. In *Ramayana* and *Mahabharata* men of stature and circumstance were expected to be competent in chariot-racing, archery, horsemanship, military tactics, wrestling, weight-lifting, swimming and hunting. The *guru-shishya* (teacher-pupil) relationship has always been an integral part of Indian sport from time immemorial. Indian sport reached a peak of excellence when Buddhism held sway here. In *Villas Mani Majra*, Tiruvedacharya describes many fascinating games, namely. Archery, horsemanship and horse riding, hammer-throwing and chariot-racing. In *Manas Olhas* (1135A.D.), Someshwar writes about *bhrashram* (weight lifting), *bharamanshram* (walking) and also about Mall- Stambha (wrestling). It certainly can be said that many of today's modern & sophisticated versions of Olympic disciplines of strength and speed had flourished in ancient India and Greece. Chess, Wrestling, polo, archery and hockey (possibly a fall-out from polo) are some of the games believed to have originated in India. It is a universal truth now a day sport is not merely a recreational activity but has been accepted to a great extent as a career. It is an inseparable part of human life. Sports is now gone beyond the playground, 'Sport Culture' is nothing but the combined effect of all such activities like sport medicine, Sports journalism, Sports literature, Sports museum etc.

The sports culture has taken its deep roots in western countries which we can witness through their performance at International level. Our country also has realized the creation of sports culture in the country, parallel to the other countries of the world.

It's a reality that our country has not achieved much excellence in any other game except for Hockey and Cricket at international Level. 'Hockey' has won India an Olympic gold, not once but eight times. Hockey is the official national sport in India, and the Indian national field hockey team won the 1975 Men's hockey World Cup and 8 gold, 1 silver and 2 Bronze medals at the Olympic Games. Cricket is the most popular sport in India. The Indian National Cricket Team won the 1983 Cricket World Cup.

the 2011 Cricket World Cup and the 2007 ICC World Twenty20, and shared the 2002 ICC Champions Trophy with Sri Lanka. Chess is commonly believed to have originated in northwestern India during the Gupta empire, where its early form in the 6th century was known as *Chaturanga*. In early seventies-eighties India witnessed many good chess grand masters like, Khadilkar sisters, Koneru Humpy, Dibyendu Barua, Anupama Gokhale, Abhijit Kunte, Praveen Thipasey, P. Harikrishna and Vishwanathan Anand. Vishwanathan Anand became the world Chess champion for more than 3 times, presently he is been rated as the world's top most chess player.

Captain Rajyavardhan Singh Rathore and Abhinav Bindra have brought glory to the entire nation after years of waiting. Abhinav Bindra won a gold medal in the Olympic shooting event. Other games which originated in India continue to remain popular in wide parts of northern India include Kabaddi, Gilli- danda, and Kho-Kho. Traditional southern Indian games include Snake boat race and Kuttivum kolum. How ever recently our country has started taking serious cognizance of our defeats at international level and thus an open sports policy has been adopted. In 2011, India inaugurated a privately built Buddh International Circuit, its first motor racing circuit. The 5.14 – kilometer circuit is prepared in Greater Noida, Uttar Pradesh, near Delhi. The first Formula One Indian Grand Prix event was hosted here in October 2011.

This is a good sign. Even at grassroots level this subject is being vigorously discussed. The central and state government has taken serious cognizance of sports culture development and as a part of its initiation, they have started implementing Health and Physical education subject from the primary level. The sports culture has slowly but surely started attracting the attention of the nation especially by the efforts made by Sports authority, Central and State Government. It is needless to say that there are so many aspects that are left untouched in the area till today, which are not considered as an integral part of the development of Sport Success.

FAMOUS SPORTS PERSONALITIES OF INDIA: (ATHLETICS)

a) Milkha Singh:

The "Flying Sikh", Milkha Singh was born in Faisalabad, Pakistan on 8 October 1935. He had lost his parents at the time of partition. He had no formal training of any kind. Milkha Singh tried to enroll in the army, but was rejected thrice. He was finally able to join in the army's electrical mechanical engineering branch in 1952. Once in the armed forces. His coach Havildar Gurdev Singh inspired him. He sweated it out every day and worked very hard on his practice. He came into the limelight during the National Games at Patiala in 1956. In 1958, he broke the 200m and 400m records at the National Games at Cuttack. His greatest and probably the saddest moment came when he finished fourth in a photo finish at the 1960 Summer Olympics in Rome. He also represented the country in the 1964 Summer Olympics in Tokyo. He held the Olympic 400 m record in the 1960 Rome Olympics, besides winning the Gold medal in the 1958 Commonwealth Games, the Asian Games in 1958 (in the 200m & 400 m categories) and the Asian Games in 1962 (in 200m).

At a race in Pakistan in 1962, Where he defeated Abdul Khaliq, the winner of the 100m gold at the Tokyo Asian Games, Where he was christened the 'The Flying Sikh' by the Pakistani President Ayub Khan. Milkha Singh was awarded the Padma Shri by the President of India in 1958. He donated all his medals to the nation.

b) P.T. Usha:

Pilavullakandi Thekkeparampil Usha (P.T. Usha) or "Payolli Express" as she was popularly known was the reigning queen of Indian track and field for two decades. This "Golden Girl" was born on June 27, 1964 in a village called Koothali near Perambra in Kozhikode district of Kerala. She was interested in sports right from her childhood days.

Usha started practicing under coach O.M. Nambiar. Her March to fame started in 1979, when she won the individual championship at the National School Games. In 1980, in her first international meet, she won 4 gold medals for India. Her biggest moment came when in the 1984 Los Angeles Olympics she missed the bronze medal in the 400m finals.

In 1985 she won 5 gold medals and 1 Bronze medal at the Asian track and field championship in Jakarta, Indonesia. At the Seoul Asian Games, Usha won gold medals in the 200 m, 400 m. 400 m hurdles and 4 x 400m relay categories. At the Beijing Asian Games, she won 3 silver medals for India. In 1991. After the birth of her son, she came back to athletics and won bronze medals in the 200 m and 400 m at the Asian Track Federation meet at Fukuoka in Japan in 1998. She retired from

athletics in the year 2000 and set up her sports academy in Kerala.

She was awarded the Arjuna Award in 1983 and the Padma Shri in 1985.

c) (Boxing) Mary Kom:

Born On 1st March 1983, Mangte Chungneijang Mary Kom is an Indian boxer from the northeast state of Manipur. She is also known as MC Mary Kom or Magnificent Mary. Mary kom is famed as a five time World Boxing Champion and the only boxer to win a medal in every one of the six world championships. In the 2012 Olympics, she become the first Indian Women boxer to qualify and win a bronze medal in the 51 kg flyweight category of Boxing. She is currently ranked as Number. 4 in the flyweight category of AIBA world Woman's Ranking.

d) (Badminton) Saina Nehwal:

Saina Nehwal was born on 17th March 1990 in Hisar District, Haryana and is an Indian badminton player currently ranked number 4 in the world by the Badminton World Federation. Saina is the first Indian to win the World Junior Badminton Championships and the first Indian to win a medal in Badminton at the Olympics. She won a Bronze medal at the 2012 London Olympics becoming the second Indian women to win an individual medal at the Olympics. She is supported by the Olympic Gold Quest.

e) (Archery) Jayantha Talukdar:

One of the most promising sportsmen of the country, Jayantha Talukdar is presently the world No. 2 in the Individual Recurve event. He won the gold medal in the South Asian Federation Games or SAF Games at Colombo, Sri Lanka in 2006.

Jayantha, who hails from the state of Assam, was born in 1987. He was spotted at a very young age by archery coaches of Guwahati. His talent was further nurtured at the Tata Archery Academy in Jamshedpur. He become a part of the Indian Archery history in 2004 when he become the top scorer of the silver medal winning Indian team at the Junior world Championship in Britain. It was the first Indian team to win a medal in any archery world championship.

f) (Cricket) Sachin Ramesh Tendulkar:

Sachin, born on 24th April 1973 to a Marathi novelist, Mr. Ramesh Tendulka and an insurance professional Mrs. Rajni Tendulkar, he was nicknamed as Tendlya and Little Master. Sachin Tendulkar, is one of the most famous cricketer's in the Indian team. Apart from that in the history of this sport, He is among the greatest batsmen. Tendulkar is leading the list of century markers as well as the maximum run scorers in the One Day International (O.D.I) cricket matches and the Test cricket matches. Sachin is even the first and sole player in the history of Test cricket matches, who made 51 centuries. Sachin was honored by the cricketing legend DON BRADMAN, of Australia. He is a right handed batsman. He is the first person to score a double century' in one day cricket format, which he scored against a strong opponent, South Africa. His bowling style includes right arm leg spin, medium pace and off spin throw. On 5th December 2012, Tendulkar become the first batsman in history to cross the 34,000 run aggregate in all formats of Cricket put together. He had played a total 657 matches in international cricket. His much awaited 100th century milestone was achieved on 16th March 2012 against Bangladesh in the Asia Cup, putting an end to the speculations that he no longer has it in him. On 23rd December 2012, Sachin Tendulkar announced his retirement from ODI Cricket and test cricket. On 18th November 2013 he announced his retirement.

g) (Chess) Vishwanathan Anand:

The living legend of chess, Vishwanathan Anand was born on December 11, 1969 in Chennai. His awesome speed has earned him the nickname "Lightning Kid." In March 2007, Anand won the Morelia - Linares Super Grandmaster chess tournament. He won the National Sub- Junior Chess Championship in 1983 at the age of fourteen. In 1984, Anand went on to become the youngest Indian to win the international Master Title. In 1987, he become the first Indian to win the World Junior Chess Championship and the next year, he become India's first Grandmaster. At the age of 22, he won the Reggio Emilia, finished ahead of greats like Garry Kasparov and Anatoly Karpov. In 1995, he lost to Garry Kasparov in New York City's World Trade Center. He achieved victories at Dortmund in 2004, the Corus chess tournament in 2006 and Linares in 2007. This Chess whizkid won the chess Oscar in 1997, 1998, 2003 and 2004. Anand won the Fide World Chess Championship in 2000 after defeating Alexei Shirov in the final match held in Teheran. In 2003, he won the World Rapid Chess Championship. In 2006, he become the fourth player in history to cross the 2800- mark in ELO

ratings. Vishwanathan Anand has added yet another feather to his cap by winning the World Chess Championship in Moscow against Boris Gelfand of Israel giving a reason to his friends to rejoice once again. Having won the title previously in 2000, 2007, 2008 and 2010 and now in 2012 this was his fifth victory at the World Chess Championship where he was also the defending champion.

h) (Car Racing) Narian Karthikeyan:

Narian Karthikeyan, India's first Formula One driver, was born in Coimbatore, Tamilnadu on January 14, 1977. Karthikeyan got hooked on to car -racing early on in life. His father and uncles were former Indian national rally champions. He went to the Elf Winfield Racing School in France to hone his skills. He competed in the Formula Vauxhall Junior Championship in great Britain, which gave him valuable experience. In 1994, he went back to the U.K. and participated in the Formula Ford Zetec. He participated in the British Formula Ford Winter Series, becoming the first Indian to win any championship in Europe.

i) (Swimming) Bula Choudhary:

Bula Choudhary is one of the most famous long - distance swimmers of India. When she was just 9 years old, she became famous for winning six gold medals in many events of her age group. In 1984 she set a national 100m butterfly record of 1:06.19sec. During the Seoul Asian Games in 1986, she created a record 1:05.27sec in 100m butterfly and another record of 2:19.60sec in 200m butterfly. In her swimming career of 24 years, Bula earned the distinction of becoming the first woman in the world to swim across seas in five continents. In August, 2004, she set this record by swimming across the Palk Straits from Talaimanner in Sri Lanka to Dhanushkodi in Tamil Nadu in nearly 14 hours. Bula Choudhary earned the honor to become the first Asian woman to swim across the English Channel twice.

j) (Shooting) Abhinav Bindra:

Abhinav Bindra, one of the eminent Indian sports personalities, born in the year 1983, Abhinav Bindra undying spirit and ability to take up challenges has placed him amongst the top in the world of shooting. He shot to fame after his remarkable record of 597/600 in the Munich World Cup, winning the bronze for his country. Bindra was the youngest participant in the 2000 Olympics. In 2001, he won six gold medals at an international event. The gold medal that Bindra won in the World Championship in Zagreb on July 24, 2006 added another feather to his cap. By winning gold medal in the 10m air rifle event at the 2008 Beijing Olympic Games he became the First Indian to win an individual gold medal at the Olympic games.

k) (Football) Baichung Bhutia:

Baichung Bhutia is undoubtedly the famous Indian footballer in recent times. Born on December 15, 1976 in the remote Tinkitam village of Sikkim, Baichung's story is one of sheer grit and determination against all odds. He won a SAI Scholarship to attend the Tashi Namgyal Academy in Gangtok and played for several school and local clubs in Sikkim. His performance in the 1992 Subroto Cup did wonders to his career. In 1993, he joined Kolkata's East Bengal Club and the rest, as they say, is history. In 1995, he moved to JCT mills, Phagwara, which won the Indian National Football League that year. He was named "1996 Indian Player of the Year". He was the best player of the 1992 Subroto Cup, the youngest goal scorer for India in 1995, best player of the Calcutta Super Division 1995, the top scorer of the Calcutta Super Division 1995, top scorer of the first National Football League, 1996 -97, best player of the first National Football League, voted as "Asian Player of the month" for the months of May 1999 and October 2002 and was the top scorer of the first Asian Club Championship 2003 in Indonesia. He received the Arjuna Award in 1999.

l) (Lawn Tennis) Leander Paes:

Leander Adrian Paes, was born in Goa on June 17th, 1973. He has won many titles all over the world in the singles, doubles and the mixed doubles categories. His father represented the Indian Hockey team at the 1972 Munich Olympics. Leander got international fame, when he won the Wimbledon Junior title in 1990 and claimed the No. 1 spot in the Junior world rankings. In 1996 he won a bronze medal at the Atlanta Olympics. He has won in his illustrious career, the doubles titles at the 2006 US Open partnering Martin Damm, the 2001 French Open doubles title partnering Mahesh Bhupathi, the 1999 Wimbledon doubles title partnering Mahesh Bhupathi and the 1999 French Open

doubles title partnering Mahesh Bhupati. He has won the Mixed Doubles crowns at the 2003 Australian Open partnering Martina Navratilova and the 1999 Wimbledon mixed doubles crown partnering Lisa Raymond. He was a recipient of the Rajiv Gandhi Khel Ratna award in the year 1996-1997 and in 2001; he was awarded the Padma Shri

6. SPORTS FOR INTERNATIONAL UNDERSTANDING

Youth Participating in games at various national /international levels will bring together youth from around the world. Major sporting events often allow players, officials and fans of different countries to come together to learn more about other countries. People will learn to live and communicate with others who do not share a common background and way of life with them. People with differing cultures and backgrounds will be made to come together and this will breed a sense of interest regarding other cultures; people will learn to live and communicate with others who do not share a common background and open way of life with them. Exposure to people of different nationalities can give birth to religious tolerance and open mindedness which contributes to the forging of harmonious ties. Individuals, countries and political groups can use sporting events as a platform for achieving its political goals.

Sports is often used as a political tool to enhance diplomatic relations between two entities. The intention is to bring about a radical change. In sports, it is very important that teams uphold good moral values and abide to the rules of the game. By doing so, it can help teams and countries share a common understanding and communicate better. Sporting events can often bring players, officials and fans of different races to come together.

This can help people learn more about different races and develop a mutual understanding and respect for different races. The media plays a huge role in influencing fans and supporters of different games & sports, by giving the factual aspects of the activity. When the media reports of positive social gestures between players, this can influence fans to follow their sporting idols footsteps and in turn, show respect for other nations sports persons. In sports, moral values are often called in to play. Good sportsmanship fosters relations among competitors and these social ties will go a long way in promoting inter country harmony.

Using media as a visual medium to capture sportsmanship that the participants are portraying during the events allows the public to understand and respect their fellow competitors, viewers as well as the event itself. While sports undoubtedly have universal aspects, their local meanings are also worth examining. Different cultural traditions have influenced sports in a variety of ways. In various cultures "sports represent individuals, communities, regions and nations, and a key feature of the global sport process is that it is used by different groups - those which are more established, as well as emergent groups - to represent, and/or challenge identities"

The form of games is generally universal: societies may alter the structure and/ or values when importing games from other cultures. Many games have undergone changes in order to fit into a given cultural tradition. In this sense, "games are, one and at the same time products of culture and vehicles for the transmission of culture" and also "a form of cultural expression"

Many people. Especially sports enthusiasts, support the notion that "sport is intrinsically good" and that it is a separate activity from politics". Furthermore, the students of international relations study should focus more on the role of sport in their studies. Considering the interest in sport from the media, participants and spectators, political figures, and from the commercial sector, one cannot ignore the influence of sport in international relations. Various international organizations, such as UNESCO, the International Olympic Committee, and others support the notion that 'sport promotes peace'. The former has promoted the International Charter of Physical Education and Sports as a contribution to friendly international relations. There are certainly many more examples of international organization and groups, government, non government related, which utilize sport as cross - cultural medium. It is important to recognize; that relations between sports and politics can either hinder or promote the goal of improving international relations.

INTERNATIONAL SPORTS AND CULTURAL ASSOCIATION, ISCA was founded in 1995 for the purpose of providing an alternative image of sport in the world of increasingly performance- based attitude of international sports federations. Since its foundation in 1995, ISCA has grown rapidly and now it has more than 70 countries worldwide and more than 22 million individual members. The association is governed by an executive committee of seven elected members and is steered by

continental and technical committees. The secretariat is based in Copenhagen, Denmark. ISCA targets youth, sports, and culture associations from all over the world, primarily, voluntary sport organizations which have a value based services to their members, to encourage all organizations to assist the members and regions / clubs in fulfilling their aims in providing service and instruments to achieve. To fulfill the above, ISCA concentrates on three keys areas: activities, education, and policy – making. The ISCA not only promotes events and educational programs but also additionally takes a full role in the public debate on sport and culture and strives to influence policies in these areas. It hopes to improve the general health and well being of individuals in creating a united society. The ISCA has three main objectives:

1. Supporting cross- border understanding through sport and culture.
2. Promoting sport as a bearer of cultural identity.
3. Encouraging the broadest possible participation in sports and cultural activities for affiliated members.

7. Doping (Drug and Dope)

In this developed world, today sportsmen consume steroids, drinks and smoke. Because of this our upcoming generation is facing a terrible future. Today such kind of medicine, medicine in the sense steroids, such use of steroids if taken at a higher level will cause damage to sportsmanship. All sportsmen are facing pressure for using that because they have to face doping charges.

Doping is defined as the presence of a substance in the which human body which are prohibited according to the list published by the International Olympic Committee and/or the international organization of the member organization in question. The use of such substance, their presence in urine or blood samples, and the use of methods with the purpose of altering the result of an analysis of a urine or blood sample are prohibited.

DOPING IN SPORTS:-

Doping in sports means an illegal work done to modify the body physiologically which is always against the ethics and attitude of a player.

DOPING MEANS WHAT? :-

International Olympic Committee have some rules. Under that rule, some unrealistic medicine sportsmen use is called doping. All national, International Committee will not allow use of this kind of steroids.

According to International Olympic Committee some sportsmen to increase their ability or stamina, use some unrealistic drugs. They take drugs in the form of some injection that injects our blood again into our body. This kind of unnatural things used by sportsmen. Will affect other players. also It means, a true player, normal player is not aware about the real joy of sports. So people can't show their interest on such kind of sport.

DOPING EFFECTS:-

Today in the sports world, players get some popularity and also gets huge amount of money. So basically all people, want this to happen with them so. They do whatever it takes and start using unnatural things like steroids or drugs.

ERGOGENIC AIDS:-

All players have some physical capacity. For limits on this capacity, player can use unnatural drugs or medicine to improve their ability. These drugs are called ergogenic Aids.

By Using Ergogenic Aids :-

- Player can improve their physical capacity.
- Player will improve their performance.
- We can decrease our tiredness and player can easily be back to his normal stage.
- We can avoid some unwanted moments.

Classification of Ergogenic Aids:-

This Classification is into 5 groups.

1. **Electronic aids** → heart rate monitor, operatable by computer, test result etc.
2. **Medicine's Aids** → Different Types.
3. **Physical Aids** → Acupunture Herbal Medicines Homeopathy, Physiotherapy, Sauna Bath etc.
4. **Nutrition Aids** → Bicarbonate Soda, carbohydrate loading, sport drink caffeine

5. Psychological Aids → Motivation idea, Songs, Rest

Banned Ergogenic Aids :-

- 1) Physical → Blood doping EPO Erythropoietic.
- 2) Medicine's → Amphetamine, B- blocker, Human growth hormone, anabolic steroids.

8.	Nutrition
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Food is a very important need for human beings. Human being has more interest in food for decades. Food is not only used to cope with hunger but also to keep the body fit. To keep our body proper our diet should be in adequate amount Due to a balanced diet humans can live or survive happily and healthy.

WHY BALANCE DIET: -

Due to a balanced diet, we get proper nutrition and we will not suffer from various diseases and disorders.

NUTRITION FACTOR:-

Carbohydrates are chemically composed of carbon, hydrogen and oxygen. They are the main sources of energy. Carbohydrates can be classified → monosaccharides, disaccharides, polysaccharides.

1. CARBOHYDRATES SOURCES:-

a) Through plants:-

- i) Grains – Rice, Wheat, Maize, Cereal plant, Cereal Grain
- ii) Root food – Potato, Sweet Potato
- iii) Fruits – Grapes, Banana, Mango, Apple etc.
- iv) Trunk – Sugarcane

b) Through Animal (Milk Lactose etc. uses carbohydrates):-

- i) Energy source – We get 4 cal from 1 gram of carbohydrate. Approximately 65 to 80% of your daily calories should come from carbohydrates
- ii) Proteins – Adequate carbohydrate intake helps prevent proteins from being used as energy
- iii) Fiber food – Fiber is that which keeps your digestive system running smoothly and eliminates waste often. Fiber dissolves in water up fluid in your stomach and small intestine

2. PROTEINS

Proteins are fundamental components of all living cells that are necessary for the proper functioning of an organism.

Proteins source:- Milk and milk products, egg , meat fish

Use of Proteins:-

- i) Protein is necessary for the building and repair of body tissues
- ii) It produces enzymes, hormones and other substances
- iii) Protein keeps the body healthy by resisting disease that are common to malnourished people.
- iv) Prevents one from becoming easily fatigued by producing stamina and energy

3. VITAMINS

Vitamins are natural substance found in plants and animals and known as essential nutrients for human beings. The name vitamin is obtained from vital amines as it was originally thought that these substances were all amines. There are two types of vitamins: water soluble and fat soluble

- i) Water soluble Vitamins – Water soluble vitamins cannot be stored in the body, so you need to get them every day. They can be destroyed by overcooking
- ii) Fat – Soluble vitamins – Fat – Soluble vitamins include vitamins A,D,E,K Since They are soluble in fat and absorbed by the body from the intestinal tract
- iii)

VITAMINS	RICH SOURCES	FUNCTIONALITY
"A"	Eggs, dark green and yellow fruits and vegetables. Dairy Products, liver	Healthy formation of bones, teeth, skin, maintenance of outer layer of many tissues and organs for growth and vitality
"D"	Egg yolk, fatty, milk and also when skin is exposed to sunlight	Required for bone and teeth formation, improves absorption and utilization of phosphorous and calcium maintains stable nervous system
"E"	Vegetable oil, wheat germ. Nuts, dark green vegetables whole grains beans	Retards cellular aging because of oxygen, alleviates fatigue by supplying oxygen, prevents and dissolves blood clots, helps in preventing sterility
"K"	Green leafy vegetables, beef, liver and cheese, coffee, bacon and green tea	Vitamins "K" is known as the clotting vitamin because without it blood will not clot

4. MINERAL/ ALKALI:

Minerals are natural compounds formed through geological processes. Minerals are needed by the body in small amounts to help it functions properly and stay strong. Iron, calcium, potassium and sodium are some of essential minerals. Humans need small amounts of about 14 minerals to maintain normal body function and good health.

5. WATER

Water is the most important nutrient and the most abundant substance in the human body. A person might live for a number of weeks without eating food, but he could live only a few days without drinking water.

Uses – Water is the greatest known solvent because of this property water is extremely important in the processes of digestion.

Water is a great carrier. Water helps carry food materials to all parts of the body.

KREB'S CYCLE WAS DISCOVERED BY SIR HAN'S KREB:

Energy which is produced by the food we consume and respiration is obtained by a regular process called Krebs' cycle.

It is a continuous cycle process. This process is carried out in mitochondria in the cells (मायटोकॉन्ड्रिया)

Our body needs proper food, vitamins and salts to carry out the process. Majority of the mitochondria are found in muscle cells. Exercise can increase the no. of mitochondria in the cells due to this we get energy for our muscles but to carry the process the vitamins required are given in the diagram below

CALORIES:-

ATP energy is different from calories. These energies are more important to athletes than to an ordinary person.

Energy produced by ATP than this energy at that time process a new energy is produced that is counted in calories. The extra ATP is stored in the form certain phosphate. Muscles are regular in that in between this energy is utilized and this energy system is called ATP CP system. Due to certain phosphate used for regular energy. Mostly in the regular person don't need this energy and it is more utilized for at least because of the we can identify the or count food energy in calories. Krebs's cycle is regular due to ATP and not because of certain phosphate and ATP is formed, ATP are formed from food i.e. balance diet.

Sr. No.	Age (in years)	Calories needs per day
1.	10 to 12 years boys and girls	2100 Calories
2.	13 to 15 years boys	2500 Calories
3.	13 to 15 years girls	2300 Calories
4.	16 to 19 years boys	3000 Calories
5.	16 to 19 years girls	2200 Calories

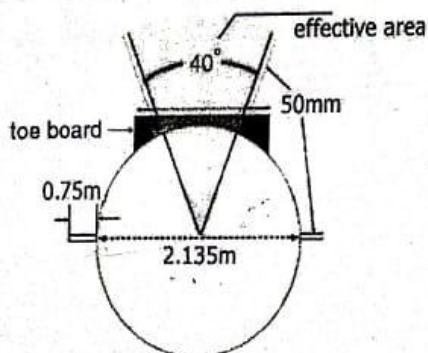
Diet is needed as per the training programme and the schedule of the competition and players should gain maximum cal. at this time

Sr. No.	Diet	Estimate
1.	Starchy Food	50 to 55 %
2.	Proteins	15 to 20 %
3.	Oily Food	20 to 30 %
4.	Water	3 to 4 liters

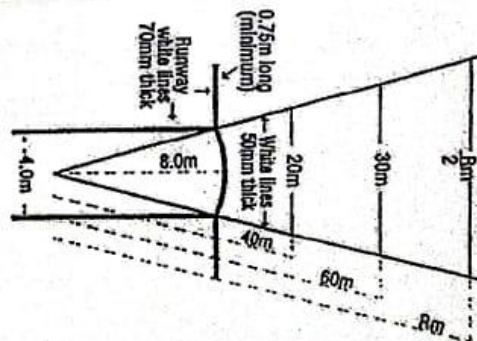
This phosphate energy is used for regular contraction and relaxation of muscles in Gym, athletes etc. for this process oxygen is required and vitamins, proteins, carbohydrates because of this ATP and ADP

(ATP – Adenosine Triphosphate) (ADP – Adenosine Diphosphate) are regularly synthesized. ATP is a regular energy. At That time we use ATP. ADP is formed again by ADP with the help of oxygen and other chemicals like vitamins, proteins, carbohydrates then translate into ATP. ATP and ADP this cycle is very important for athletes and water is also very vital for this regular cyclic process and because of water the more energy is produced and vital works can easily be performed by our body.

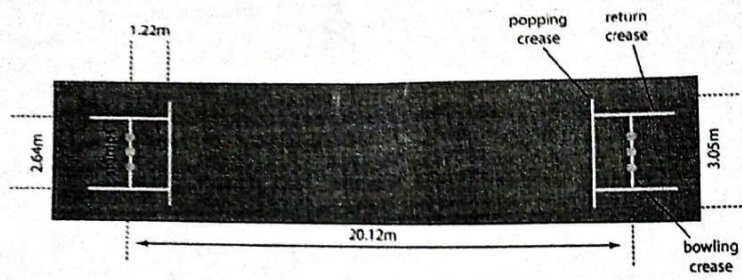
Shot Put



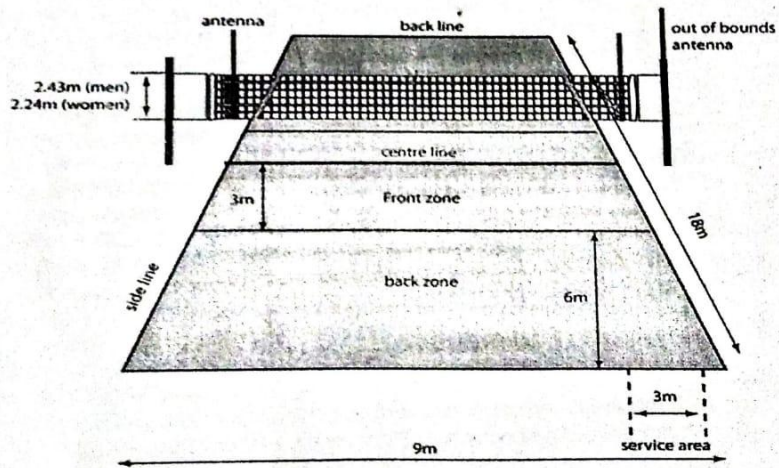
Javelin throw

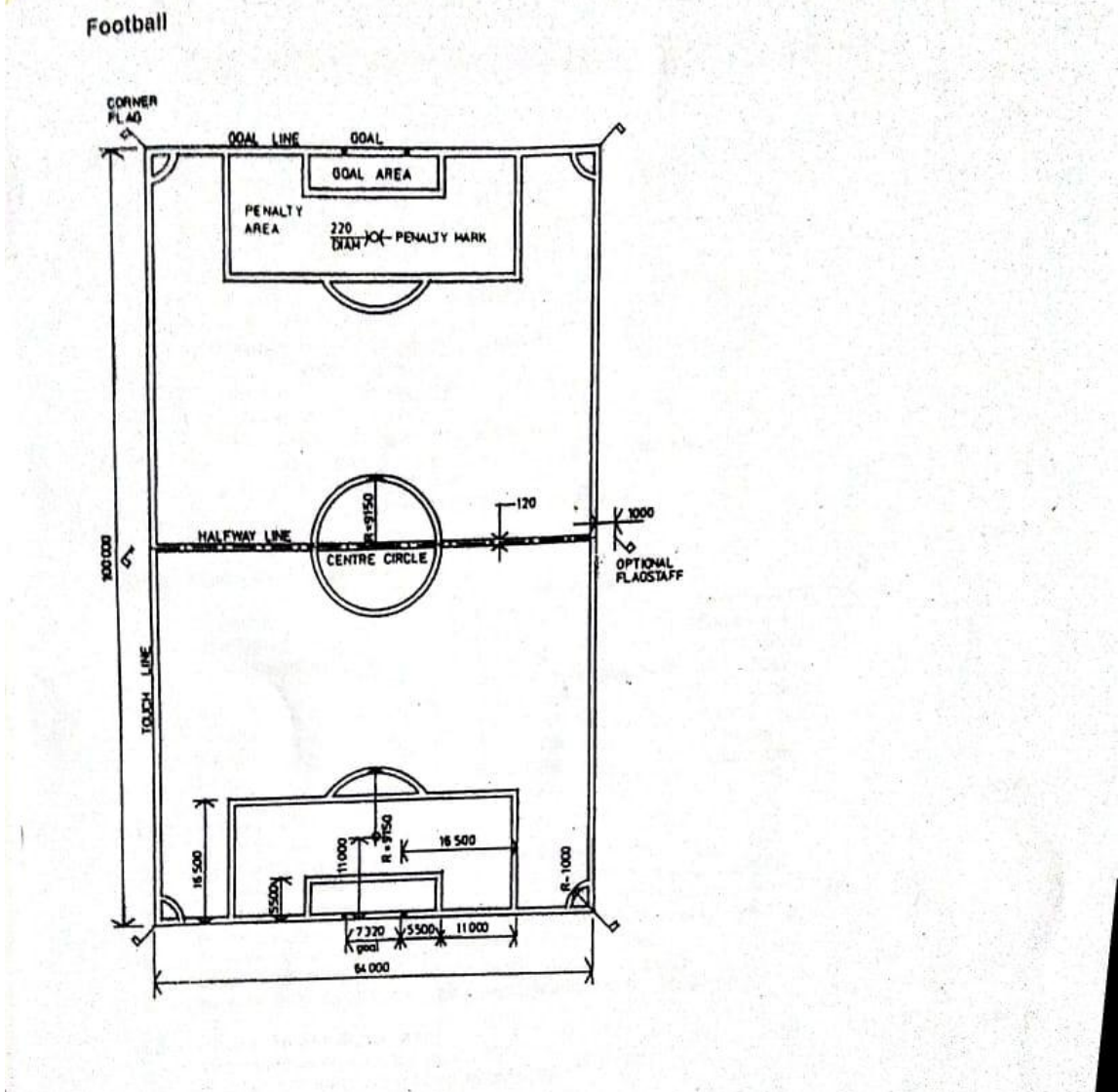


Cricket



Volley Ball





Tayf

Sub: Health and Physical Education 2nd Term

XII- Commerce & Science- Question Banks

25 marks
(02)

Q.1(A) Fill in the Blanks:-

- 1 Brabourne Cricket stadium is in _____ city.
- 2 a) Nagpur b) Chennai c) Mumbai
- 3 The Santosh Trophy is associated with the game of _____.
- 4 a) Cricket b) Basketball c) Football
- 5 The term 'Free hit' is used in _____.
- 6 a) Baseball b) Volleyball c) Cricket
- 7 The term 'off-side' is used in _____.
- 8 a) Basketball b) Football c) Softball
- 9 The term 'Smash' is used in _____.
- 10 a) Handball b) Volley ball c) Throw ball
- 11 The national sport of Japan is _____.
- 12 a) Table Tennis b) Judo c) Swimming
- 13 The two types of vitamins are _____ and fat soluble.
- 14 a) Water b) Protein c) liquid
- 15 Vitamin "_____" is known as the clotting vitamin.
- 16 (A, D, E, K)

(02)

Q.1(B) Match the following:-

"A"		Answers	"B"
1	P.T. Usha	Golden Girl	Adenosine Triphosphate
2	Mary Kom	Boxing	Sugarcane
3	Abhinav Bindra	Shooting	3 to 4 liters
4	ATP	Adenosine Triphosphate	15 to 20%
5	Water	3 to 4 liters	50 to 55%
6	Proteins	15 to 20%	Boxing
7	Starchy food	50 to 55%	Shooting
8	Trunk	Sugarcane	Golden Girl

(02)

Q.1(C) True or False.

- 1 Ice is a Solid → True
- 2 A balanced diet also enables you to live longer → True
- 3 The shoulder joint allows rotatory or circular movements. → True
- 4 Sania Nehwal won a silver medal at the 2012 London Olympics → False
- 5 Running, Jogging, and Cycling, are part of aerobic exercises. → True
- 6 Sutures on the skull are Fixed joints → True
- 7 Elbow joints are slightly movable joints → False
- 8 Synovial fluid is present in freely movable joint → True

(05)

Q.2 Answer in one Sentence:-

- 1 Write any two reasons for obesity?
- 2 Give two precautions for avoiding obesity?
- 3 Where does Krebs' cycle occur?
- 4 What is protein?
- 5 Who is known as the 'Flying Sikh'?
- 6 Who is known as the 'Golden Girl'?
- 7 What is vitamin 'E'?
- 8 What is vitamin 'K'?
- 9 What are the functions of vitamin 'A'?
- 10 What are the functions of vitamin 'D'?

Q.3 Define the following (Any Two)

(04)

- 1 Define fitness
- 2 Define balance diet
- 3 Define Joints.
- 4 Define water
- 5 Define nutrition
- 6 Define doping

Q.4 Answer Briefly (Any Two)

(06)

- 1 What are the uses of carbohydrates?
- 2 What are the uses of water?
- 3 What is the meaning of aerobic exercises?
- 4 What is 'aesthetic' as in sports?
- 5 Explain obesity.
- 6 Give any five examples of circuit training?

Q.5 Draw and label the figure of a ground (Any One)

(04)

- 1 Cricket
- 2 Volley ball
- 3 Football
- 4 Shot - put
- 5 Javelin throw