Strictly Confidential: (For Internal and Restricted use only)
Senior Secondary School Certificate Examination
March 2019
Marking Scheme

Physical Education (048)

Series BVM/1 (SET – 4, CODE NO. 75)

General instructions:

1. You are aware that evaluation is the most important process in the actual and correct assessment of the candidates. Small mistake in evaluation may lead to serious problems which may affect the future of the candidates, education system and teaching profession. To avoid mistakes, it is requested that before starting evaluation, you must read and understand the spot evaluation guidelines carefully. Evaluation is a 10-12 **days mission for all of us. Hence, it is desired from you to** give **your best in this process.**

2. Evaluation is to be done as per instructions provided in the Marking Scheme. It should not be done according to one's own interpretation or any other consideration. Marking Scheme should be strictly adhered to and religiously followed. However, while **evaluating, answers which are based on latest** information **or knowledge and innovative may be assessed and marks be awarded to them.**

3. The Head-Examiner must go through the first five answer books evaluated by each evaluator to ensure that evaluation has been carried out as per the instructions given in the Marking Scheme. The remaining answer books meant for evaluation shall be given only after ensuring that there is no significant variation in the marking of individual evaluators.

4. If a question has parts, please award marks on the right-hand side for each part. Marks awarded for different parts of the question should then totaled up and written in the left-hand margin and encircled.

5. If a question does not have any parts, marks must be awarded in the left hand margin and encircled.

6. If a student has attempted an extra question, answer of the question deserving more marks should be retained and other answer scored out.

7. No marks to be deducted for the cumulative effect of an error. It should be penalized only once.

8. A full scale of marks **0 to 70** has to be used. Please do not hesitate to award full marks if the answer deserves it.

9. Every examiner should stay full working hours i.e. 8 hours every day and evaluate 25 answer books.

10. Avoid the following common types of errors committed by the Examiner in the past:
Leaving answer or part thereof unassisted in an answer book.
- Giving more marks for an answer than assigned to it.
- Wrong transfer of marks from the inside pages of the answer book to the title page.
- Wrong question wise totaling on the title page.
- Wrong totaling of marks of the two columns on the title page.
- Wrong grand total.
- Marks in words and figures not tallying.
- Wrong transfer of marks from the answer book to online award list.
- Answers marked as correct, but marks not awarded. (Ensure that the right tick mark is correctly and clearly indicated, It should merely be a line. Same is with the X for incorrect answer.)
- Half or a part of answer marked correct and the rest as wrong, but no marks awarded.

11. While evaluating the answer books if the answer is found to be totally incorrect, it should be marked as (X) and awarded zero (0) Marks.

12. Any unassessed portion, non-carrying over of marks to the title page or totaling error detected by the candidate shall damage the prestige of all the personnel engaged in the evaluation work as also of the Board. Hence, in order to uphold the prestige of all concerned, it is again reiterated that the instructions be followed meticulously and judiciously.

13. The Examiners should acquaint themselves with the guidelines given in the Guidelines for spot Evaluation before starting the actual evaluation.

14. Every Examiner shall also ensure that all the answers are evaluated, marks carried over to the title page, correctly totaled and written in figures and words.

15. As per order of the Hon'ble Supreme Court, the candidates are now permitted to obtain photocopy of the Answer Book on request on payment of the processing charges.

PHYSICAL EDUCATION MARKING SCHEME(2019 – DELHI)

PART A

1.	1. **Suggest any two disadvantages of league tournament**. Ans:- - More time consuming - Large quantity of resources required - Facilities for accommodation and mess services required on large scale. - Moral of the team becomes low due to repeated defeat. (Any two points)	1/2+1/2	**1**
2.	**1. What do you mean by Dieting?** Ans:-Dieting means restricting to small amount of food intake or having special kind of food in order to lose/gain or maintain weight. **Or** **Enlist two sources of calcium.** Ans:-Milk or any other dairy product –green leafy Vegetables - Egg – Meat–fortified Orange juice- soya bean- Almond- etc.	1/2+1/2	**1**
3.	**Explain two benefits of "ARDH MATSYENDRA" asana.** Ans:- Benefits of Ardhmatsyendra Asana: - Enhances the stretching ability of Back muscles - Prevents digestive ailments - stimulates functioning of heart - Regulates Secretion of glands - Helpful in treating Sinusitis ,bronchitis, constipation, menstrual disorders, urinary tract disorders and cervical spondylitis, - Provide relief from fatigue, sciatica and back pain (or Relevant benefits) (Any two points)		**1**

		1/2+1/2	
4.	**What do you mean by Autism Spectrum disorder?** Ans:-Autism Spectrum disorder refers to developmental disorder that affects communication (verbal or nonverbal) and behaviors (interaction, repetitive). The word spectrum refers to a range of symptoms and then severity. **OR** **From which disorder a person is suffering if he repeatedly perform the same activity** Ans:-Obsessive compulsive disorder. (OSD)	1	**1**
5.	**Define Abduction.** Ans:- Abduction is moving a body part away from the mid line of the body. (eg:moving the arm/leg away from the midline of the body).	1	1
6	**What is an abnormal curvature of spine at front termed as?** Ans:-Lordosis	1	1
7	**Suggest any two physiological factors determining 'speed'?** Ans:- - Muscle Composition – fast twitch fibers - Mobility of nervous system – reaction time - Explosive strength - Metabolic Reserve - Bio-chemical Reserve - Flexibility (Any two points)	1/2+1/2	1
8	**1. What is the formula for computation of the Fitness Index?** Ans:- (I) Fitness Index score = 100 X Test duration in seconds / 2 X sum of heart beats in the recovery periods. (II) Fitness Index score = 100 X Test duration in seconds / 5.5 X pulse count between 1 to 1.5 minutes after Exercise (Any one)	1	1
9.	2. **What type of injuries are Laceration and Incision? Explain**. Ans:-Laceration and Incision are soft tissue injuries. Soft tissue include all muscles, ligament, tendons, skin etc. **Or** **Aim of Sports medicine:** - To Educate about sport injuries - To Provide knowledge about causes of injuries. - To Provide knowledge about treatment and rehabilitation of sports injuries - To Provide knowledge about preventive measures of sports injuries (Or Any two relevant points)	1 1/2+1/2	1 1

10	3. **What is the difference between Endomorph and Mesomorph types of personalities?** Ans:- **Endomorph** — **Mesomorph** Individuals have — Individuals have - Short arms and legs. — – balanced body composition - Rounded physique — - Athletic physique - Undeveloped muscles — - Strong muscles - high fat storage — - fat evenly store all over the body - Pear shaped body — - rectangular shaped body - Less ability to compete in sports — - Can Excel sports - Less active — - capable of doing lot of activities (Any two points) **OR** **What is hostile Aggression?** Ans. - Inflicting/causing harm whether physical or psychological on Someone else Violent Attitude or action that is associated with the desire to dominate. (Any one definition)	1/2+1/2 1	1 1
11	**Suggest any two methods to improve flexibility?** Ans:-**Methods to improve flexibility** - Stretch and hold method - Dynamic Stretching method - Ballistic method (yoga , Dance) - Proprioceptive Neuro – muscular facilitation techniques (partner exercises or stretching on equipments) (Any two)	1/2+1/2	1
12	**Which asanas are helpful in reducing obesity? Explain the procedure and contraindications of any one asana.** Ans:- - Vajrasana - Hastottan asana - Ardhamatsyendrāsana - Trikonasana (any two) **Vajrasana**: procedure I) Sit and keep both legs straight II) Fold right leg and place it under right buttock III) Fold left leg and place it under left buttock IV) Keep your spine, neck and head straight, interlock your toes, open your ankle and sit on sole of the foot V) Knees touching the ground VI) Rest your palms on the knees. VII) Concentrate on the breathing **Contraindication:** - Patient with knee and back injuries should be extra careful, Can cause severe stiffness in the feet, ankles and knees. (Any one asana can be explained)	(1+1+1)	3

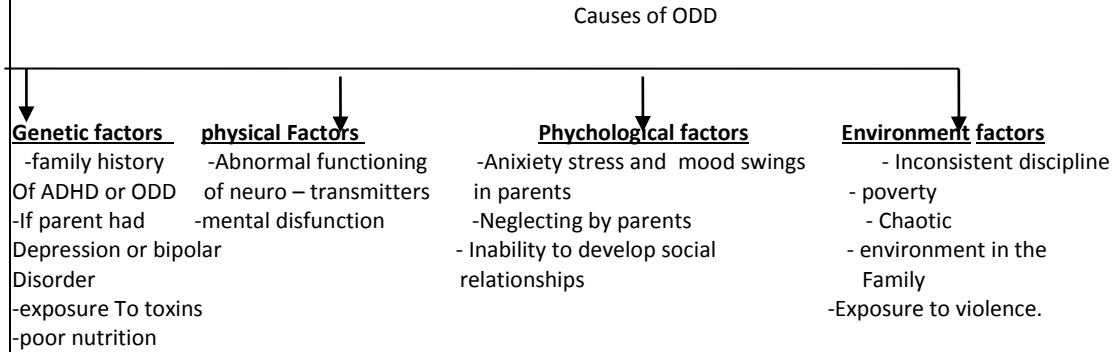
13	**Your uncle is manager in a reputed company. He works on computer regularly for long hours. Though he is conscious about his diet, he is suffering from blurred vision. Since long, he is taking medical treatment for his wound on left elbow. But it is not healing.** **Based on the above context, answer the following questions:** **(i) Name the disease, your uncle is suffering from.** Ans:- Diabetes/ Blurred vision **(ii) Suggest two asanas to cure the disease.** Ans:-Bhujangasana, Paschimottanasana, PawanMukhtasana, Ardhmatseyendrasana (any two) **(iii) Which measures will you adopt to stay healthy? (Any two)** Ans:- a) Balanced diet b) Exercise regularly/ physical activity c) Complete sleep/ proper rest d) Intake of plenty of water Avoid overeating/junk food/fatty food.	1+1+1	3
14.	**Explain briefly about eating disorder "BULIMIA"?** Ans:-Bulimia is eating disorder in which a person(adolescent girl/young women) eats excessive amount of food and vomits it out in order not to gain weight. A person suffering from this disorder feels loss of control on oneself. Does not eat proper food and hence lack proper nutrients. It is normally of two types: 1. Purging- when the person self induces vomiting. 2. Non-purging- when the person uses severe fasting, rigid dieting or excessive exercising to reduce weight. **Causes:**- 1) pressure of performance in sports (eg. Gymnastics, Marathons etc.) 2) Social factors 3) Maintain Weight category in sports 4) Genetic factor 5) Psychological factors (eg. A person with low self-esteem) **OR** **Comment on the outlook of Indian society towards the participation of women in sports?** Ans:-According to Indian Society: - Sports is a male dominant field. - Women are expected to stay indoor since society still looks down on women for participation in sports - Personal safety on road, public transport and sports venues are persistent problems for women. - The physical stature of female is affected by sports and it is considered that involving in vigorous physical activity makes her infertile. (any other relevant points)	3 3	3 3
15.	**How are the following tests carried out?** Ans:-a**) Standing Broad Jump**: for measuring leg strength. Procedure - A long jump pit/ a mat of 5x12 ft, Measuring tape	1+1+1	3

	- Mark a take- off line with lime powder - Subject stands a few inches behind the white line, swings the arms, bends knee and takes a jump. - The distance is measured from take-off line to the closest part of the body that touches the ground. - 2-3 trial jumps can be given and the best is recorded. b) **Zig Zag Run:** For measuring agility and speed Procedure - 16x10 ft. course ground area, Stop watch, 5 markers/cones/obstacles - The area is marked with lime powder in a prescribed zig zag pattern to run. - On the command of Go the subject starts running as fast as possible to complete three circuits. - The time is recorded to the nearest tenth of a second. **c) Medicine Ball Put**: For measuring arm and Shoulder strength. Procedure - Medicine ball (for girls 1kg. for boys 3kg.), Measuring tape. - - Two white lines 16ft. apart are marked. - The subject can stand anywhere in between. - The medicine ball is held at the junction of the neck and shoulder and the ball shall be put/thrown straight. - Three trials are given and the best throw is recorded. - If the subject crosses the white line it is a foul. - If all the three throws are foul, throws are given till a fair put is made.		
16.	**What are the components of Rikli and Jones Test? Explain the purpose and procedure of any one test?** Ans:- Rikli and Jones Test is a test for senior citizens. It has the following test Items: 1. Chair stand test 2. Arm curl test 3. Chair sit and reach test 4. Back scratch test 5. Eight foot up and go test 6. Six minute walk test **Six minute walk test:** **Purpose:-** This test helps in early identification of participants at risk. The Individuals health and fitness level can be known better with the help of this test or To check aerobic fitness/aerobic endurance of a person. **Procedure:-** Equipments- a stop watch and measuring tape Walking course in a rectangular area of 50yards or 45.72mts. 20yards 5yards  5yards Start20 yards The person has to walk maximum distance as quickly as possible for six minutes. He/she may stop at	1+2	3

	any time if desires so. The total distance covered in six minute is recorded to the nearest yards/meters. (Any other test procedure explained from above mentioned six items)		
17	**Write about Physiological Factors Determining Endurance?** Ans. Physiological Factors Determining Endurance: 1. Aerobic Capacity :- Activities for a certain length of time using energy derived from- oxygen intake- oxygen transport- oxygen uptake and Energy resources 2. Lactic Acid tolerance:- Ability to tolerate higher concentration and removal of lactic acid 3. Muscle Composition:- Slow twitch and fast twitch muscle fibers determine the type of endurance activities 4. Movement economy:- Saving energy through efficient movements is always an advantage in the endurance activities (Any three Points) **OR** **Briefly explain the effects of exercise on respiratory system.** Ans. Effects of exercise on respiratory system - Strengthens will power to push beyond the capacity of regular training - Decreases rate of respiration during exercise and at rest - Strengthens muscles of Diaphragm and chest - Increase in Tidal capacity - Activates unused Alveoli since more oxygen is required for endurance activities - Avoid second wind - Efficient Gaseous exchange - Increase in residual air volume - Increase in size of lungs and chest - Increase in vital air capacity - Increase in endurance - Exhale and inhale in fast pace prevents accumulation of waste in lungs and prevents lungs diseases (Any three Points explained)	1+1+1 3	 3 3
18	**Write about the Newton's Laws of Motion and briefly discuss about their application in sports.** Ans**. Law of Inertia**: A body at rest will remain at rest and a body in motion will remain in motion at the same speed and direction unless and until acted upon by an external force. eg. Throwing an object in the air comes down due to gravitational force - A ball rolling on the ground stops or changes its direction due to the friction with the ground. (Any other appropriate example) **Law of Acceleration**: A Change in the Acceleration of an object is directly proportional to the force applied on it and inversely proportional to the mass of the object. eg:- A hammer throw will find need more force to throw a hammer of 18lbs than to throw one of 12lbs (Any other appropriate example) **Law of Reaction**: For every action there is always an equal and opposite reaction. eg:- - Bounce of the ball on the floor or wall. - While swimming when water pushed backward, body moves forward. (Any other appropriate example)	1+1+1	3

19	**Briefly explain the types of axis of rotation with suitable example.** Ans. Types of Axis rotation Axis is a straight line around which an object rotates. It is an imaginary line that passes through a joint or body to describe movement. 1. **Sagittal Axis**- Passes horizontally from posterior to anterior. It passes from front to back or vice versa. Eg. Cart wheel in gymnastics, front rolls etc. 2. **Frontal Axis**- Passes horizontally from left to right. It can be stated that frontal axis passes from side to side. Eg. Running, jumping, trunk twisting exercises etc. 3. **Vertical Axis**- Passes vertically from Inferior to Superior i.e.it passes straight from the head to the feet or vice versa. It is also known as longitudinal axis and is the longest axis. Eg. Ice skating, turning during tennis shots etc. **OR** **What do you mean by Projectile? Discuss about the factors affecting Projectile Trajectory?** Ans. **Projectile Definition:** - An object thrown into the space either horizontally or at an acute angle under the action of gravity is called a projectile. - A body that is projected or propelled upwards and continues its motion due to its own inertia is called a projectile. - It is defined as any object that once released projected continues in motion by its own inertia and is influenced only by force of gravity. (any one definition) **Factors affecting projectile Trajectory** 1. Initial velocity 2. Height of projection 3. Angle of projection 4. Air resistance 5. Spin 6. Gravitational Pull 7. Height of Projecting and landing surface (any two factors explained)	1+1+1 1+2	3 3
20.	**Draw a fixture of 12 teams on a league basis according to the staircase method. How will you decide the winner in a league tournament?** Ans:- Fixture of 12 Team on the basis of staircase method **1-2** 1-3 2-3 1-4 2-4 3-4 1-5 2-5 3-5 4-5 1-6 2-6 3-6 4-6 5-6 1-7 2-7 3-7 4-7 5-7 6-7 1-8 2-8 3-8 4-8 5-8 6-8 7-8 1-9 2-9 3-9 4-9 5-9 6-9 7-9 8-9 1-10 2-10 3-10 4-10 5-10 6-10 7-10 8-10 9-10 1-11 2-11 3-11 4-11 5-11 6-11 7-11 8-11 9-11 10-11 1-12 2-12 3-12 4-12 5-12 6-12 7-12 8-12 9-12 10-12 11-12 No of Rounds = n-1	4+1	5

	12-1 =11 No of matches = $\frac{N(N-1)}{2}$ = $\frac{12(12-1)}{2}$ = $\frac{12 X 11}{2}$ = $\frac{132}{2}$ =66 **The following way is used to decide a winner** The team that wins the match gets = 2 point. The team that loses the match gets = 0 point. If match draws then each team gets =1 point After the tournament all the teams are awarded the score as per their performance and the team which scores maximum is declared winner. If the points are equal of two teams, then a match is held again between both the teams.		
21	**What do you understand by macro — nutrients? Explain the sources and role of any two macro — nutrients.** Ans:- Macro nutrients constitute the majority of an individual's diet. They include fats, proteins, Carbohydrates, and water. It can be said that they are taken in large amount. (Or any relevant answer) **Carbohydrates:-** **ROLE** 1. Act as major fuel for muscular contraction. 2. It provides the energy to our body. 3. It helps to maintain body weight and body temperature of the body 4. Important for different digestive operations in our body. **Sources**: Rice, wheat, potatoes, beetroot, Sugarcane, sweet fruits and vegetables. Etc. **Fats:-** **ROLE** 1. It provides heat and energy to the body 2. it protects the body from extreme cold and hot climate 3. Helps in regulation of body temperature. 4. It also helps to protect internal organs of the body. **Sources**: vegetables sources:- edible oil,dry fruits, sweet potatoes, whole corn, food grains Animal Sources:- meat, milk, batter, Ghee, eggs, curd, food grains, fish etc **Proteins:-** **ROLE** 1. It also plays an important role in the physical and mental development of an individual. 2. Necessary for our growth and development and for repairing the wear and tear of tissues. 3. It helps in the formation of enzymes and hormones and also act as a source of energy 4. Transport oxygen and nutrient 5. Regulates balance of water and acid **Sources:** pulses, beans, cheese, milk, vegetables, fish, meat, eggs, etc. **Water:**- **ROLE** 1. Helps in transportation of nutrients to cells of body. 2. Regulates body temperature 3. Vital for various chemical reactions taking place in the body. 4. Essential for body metabolism. 5. Keeps the body hydrated. **Sources:** Drinking water .(any two macro-nutrients with 2-roles and 2-sources)	1+2+2	5

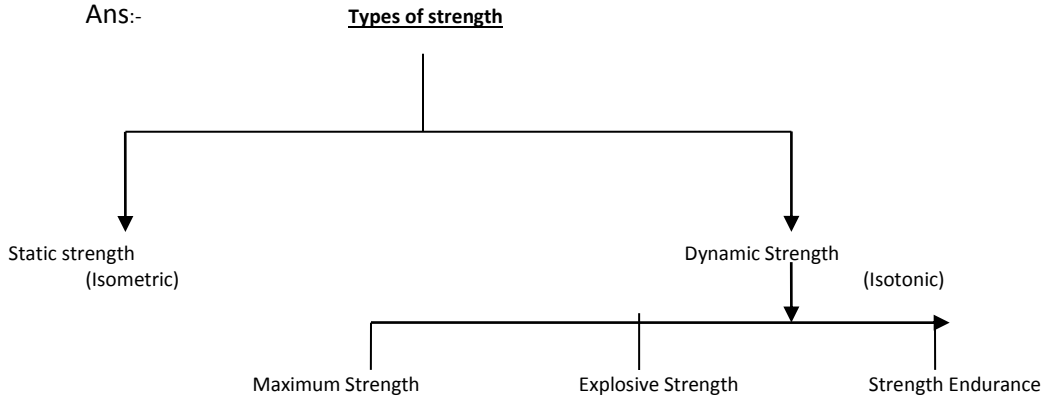
22	**Write in detail about the causes and symptoms of Attention Deficit Hyperactivity Disorder. (ADHD)** Ans:- The following are the causes of ADHD 1. Genetic factors 2. Brain injuries 3. Low Birth weight. 4. Trauma and brain diseases. 5. Improper prenatal care. 6. Improper diet/ Intake of food additives 7. Exposure to toxic substance. (Or relevant points) **Following are the symptoms of ADHD** - Trouble in paying attention/ Restless - Difficulties in organizing routine activities. - Act before thinking /Impulsive - Emotionally unstable/mood swings - Talk/excessively - Low self esteem/easily frustrated - Lack of concentration. (Any five from each)	$2\frac{1}{2}+2\frac{1}{2}$	5
	OR		
	Write about the symptoms causes and management of ODD. Following are the causes of ODD (oppositional Defiant Disorder)  (Any five points) Symptoms and Management of ODD I. Arguing with others II. Refuse to follow the rule III. Lose temper IV. Repeated disobedience V. Feeling of frustration VI. Lack of concentration VII. Difficulty in making friends. VIII. Counseling IX. Family therapy X. Social skill training Meditation etc	$2\frac{1}{2}+2\frac{1}{2}$	5

	(Any five points)		
23	**. Explain the causes and corrective measures for knock-knee and sco1iosis** Ans**:-** **Causes of knock – knee** - Faulty standing posture - Rickets - Obesity - Weakness of muscles and ligaments of knee region. - Wearing improper shoes. - Carrying heavy weight at early age. - Deficiency of vitamin D, calcium and phosphorus. (Any two points with explanation. If only point mentioned give ¼ for each point) **Corrective measures for knock knee** - Horse riding - Padmasana and Gomukhasana - keeping pillow between the knee while standing. - Use of walking calipers - Walking along a straight line with knee facing outwords. - Side kicking in football. - Supplements as advised by doctor. (Any three points with explanation. If only point mentioned give ¼ for each point) **Causes of Scoliosis** - Weakening of spinal muscle in one side - Due to infantile paralysis, rickets - Heavy load on Shoulder - Due to Some Diseases or injuries such as cerebral palsy. - Due to poor light - Wrong habit of sitting /Wrong sitting posture - partial deafness - may be congenital or acquired abnormalities of vertebras (Any two points) **Corrective measures for Scoliosis** - Breast Stroke in Swimming - Pull – ups/Hanging on Horizontal Bar - Banding exercise on the opposite side of 'C' curve. - Flexion, extension, side ward flexion of the spine (Or any relevant corrective measures) (Any three points)	$2\frac{1}{2}+2\frac{1}{2}$	5
24	**Contusion and dislocation are common sports injuries. Write in detail about the symptoms and management of these injuries.** Ans. **Symptoms of Contusion** 1. Swelling and pain 2. Muscle fail to respond	$2\frac{1}{2}+2\frac{1}{2}$	5

	3. Stiffness over the Area 4. Redness start, may turn blue or black. (Any two point) **Management for Contusion** 1. Proper Use protective sports equipment. 2. If there is more swelling use anti inflammatory 3. Cold compression should be use immediately 4. Do Flexibility exercise for rehabilitation 5. After three days apply heat instead of ice pack. (or relevant Point) (Any three Point) **Symptoms of Dislocation** 1. Severe pain over the joint 2. Swelling of the joint 3. Inability to move the joint 4. Changing shape of joint. (Any Relevant Point) **Management of Dislocation** 1. Support the joint using cushion or padding 2. Keep the person Calm and Cool 3. Let the injured person sit or lie in a comfortable position. 4. Use ice pack on dislocation area 5. Call medical help immediately (Any Three Point)		
25	**What do you mean by coping strategies? Write in detail about Emotional Focused Coping Strategies.** Ans. Coping strategies means psychological and Physiological changes, those are required to adjust an individual in the stressful condition. OR Coping refers to thoughts and actions which we usually use to deal with a threatening situation. (Or relevant definition) Following are the Emotional focused copying strategies:- 1. Ignoring stressful situation 2. Vent out emotions 3. Stop Negative thinking 4. Deep Breathing and Meditation 5. Participation in Games and Sports 6. Acceptance of reality 7. Don't blame others 8. Counseling with Psychiatric (Or relevant Point) (Any four with explanation)	1+(1x4)	5

26	**What are the types of 'strength'? Explain isotonic method to improve strength.**	2+3	5

Ans:-



Isotonic strength (Dynamic Strength):- The word isotonic is comprised of two word "ISO" means 'same' and tonic means tone. Involves movement of muscles ie. Shortening and lengthening of muscles. In these type of exercise we can observe movements directly. The length of muscle can be seen and called, eccentric
contraction and concentric contraction accordingly, Eg. When we throw a ball, jump, Run, weight training.
We can observe these type of movement widely in games and sports. These exercises can be done with or without equipments. They are best for strength development and are good for conditioning in sports like, callisthenic exercise, light Rhythmic exercise, exercise with light weight .
(Or Any relevant answer)

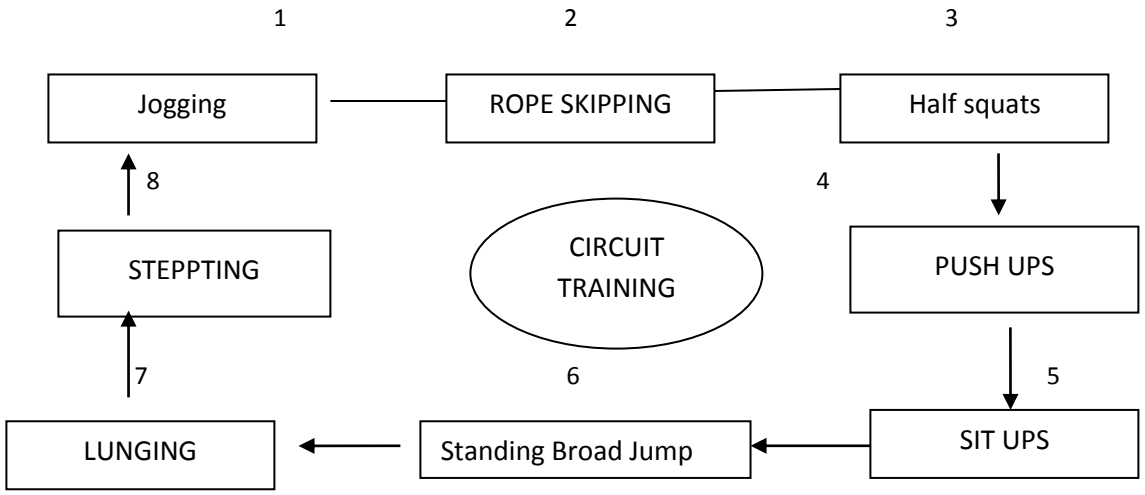
Or 1+2+2 5

Define Circuit Training. Draw a diagram of 8 (Eight) stations and explain, its advantages.

Ans:- Circuit Training

- Circuit training is the training method in which certain exercises of various kinds are performe with or without apparatus with given intensity.
- Circuit training is a type of resistance training that uses high intensity aerobic exercises in ord increase muscular strength and endurance.
- It is a scientific arrangement of exercises, performed systematically and repeatedly as circuit.
- It is a workout technique involving a set of exercises performed in circuit/rotation with minim rest, often using different apparatus.

(or Any appropriate definition)



(OR any other relevant station)

Advantage of circuit Training:

1. It can easily be structured to provide a training of whole body
2. It can be adjusted to suit age, fitness and health of the individual.
3. It can be done in large groups.
4. Trainee is able to gain good results in a short period.
5. The coach can easily watch and supervise the training.
6. It is ideal for the people who don't have much time spare for regular exercise
7. It can be administered inside or outside.
8. Minimum number of equipment is required for this training.
9. It is less cost effective.

(Any four)

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