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# BHAGAT PUBLIC SR. SEC. SCHOOL

ALANIYA, KOTA



# PHYSICAL EDUCATION PRACTICAL

## MAJOR FILE

### 2020-21

### CLASS - XII



ADDRESS

CAMPUS : N.H. 12, JHALAWAR ROAD, ALANIYA, KOTA-325003, PH :0744-2832113, 9649991123

Email : [bpssschool@gmail.com](mailto:bpssschool@gmail.com)

## Practical-1: Fitness tests administration for all items.

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Motor fitness is a term that describes an athlete's ability to perform effectively during sports or any other physical activity.

### Motor Fitness Test -

1. 50 M Standing Start
2. 600 M Run/Walk
3. Sit & Reach Test
4. Partial Curl Up
5. Push Ups (Boys)
6. Modified Push Ups (Girls)
7. Standing Broad Jump
8. Shuttle Run (4x10 M)

### 1. 50 M Standing Start

- i. **Purpose:** The aim of this test is to determine acceleration and speed.
- ii. **Equipment required:** measuring tape or marked track, stopwatch, cone markers, flat and clear surface of at least 70 meters.
- iii. **Procedure:** The test involves running a single maximum sprint over 50 meters, with the time recorded. A thorough warm-up should be given, including some practice starts and accelerations. Start from a stationary standing position (hands cannot touch the ground), with one foot in front of the other. The front foot must be behind the starting line. Once the subject is ready and motionless, the starter gives the instructions "set" then "go." The tester should provide hints for maximizing speed (such as keeping low driving hard with the arms and legs) and the participant should be encouraged to not slow down before crossing the finish line.
- iv. **Results:** Two trials are allowed, and the best time is recorded to the nearest 2 decimal places. The timing starts from the first movement (if using a stopwatch) or when the timing system is triggered, and finishes when the chest crosses the finish line and/or the finishing timing gate is triggered.
- v. **Target population:** soccer other sports in which speed over a similar distance is important.
- vi. **Reliability:** Reliability is greatly improved if timing gates are used. Also weather conditions and the running surface can affect the results, and these conditions should be recorded with the results- If possible, set up the track with a crosswind to minimize the effect of wind.

### 2. 600 M Run/Walk

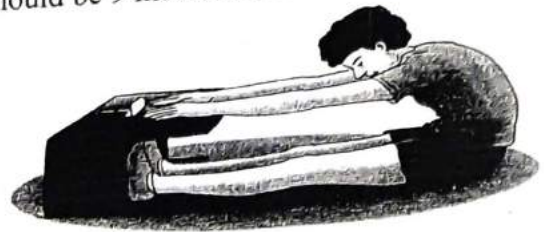
- i. **Purpose:** The aim of this test is to determine acceleration and speed.
- ii. **Equipment required:** oval or 400m running track, stopwatch recording sheets.
- iii. **Procedure:** The aim of this test is to complete the 600 meter course in quickest possible time. To start, all participants line up behind the starting line. On the command 'go,' the clock will start, and they will begin running at their own pace. Cheering or calling out the elapsed time is also permitted to encourage the participants to achieve their best time.
- iv. **Scoring:** The total time taken to run 600m is recorded.
- v. **Reliability:** The reliability of this test would depend on practice and pacing strategies and motivation level. There should be good reliability if these issues are addressed.
- vi. **Advantages:** Large groups can be tested at once, and it is a very cheap and simple test to perform-
- vii. **Disadvantages:** Practice and pacing are required to maximize the subject performance, and also the test results can be affected greatly by motivation.

### 3. Sit and Reach Test

The sit and reach test was first propounded by Wells and Dillon in 1952. This test is widely used as normal test of flexibility.

- i. **Purpose:** The sit and reach test is a significant test to measure the flexibility of hip region including the lower back and hamstring muscles. Generally it is noted that owing to the lack of flexibility in this region there is greater risk of injury. It is also entangled with lumbar lordosis and lower back pain.
- ii. **Equipment's Required:**
- iii. Sit and reach box or a makeshift ruler and a box may be used in which zero mark can be adjusted for each individual according to their sitting reach level because there is a variation of lengths of individual's arms and legs.

- iv. **Procedure:** First of all, shoes and socks should be removed. Then sit down on the floor with legs stretched out straight ahead. The soles of the feet should be kept flat against the box. Both the knees should be locked and pressed flat to the floor. An assistant may hold the knees down. Palms should be facing downwards. Hands should be on the top of each other or side by side. The individual, whose flexibility is to be measured, tries to extend his both hands forward along the measuring line on the box as far as he can extend. His finger tips of both hands should remain equal and at the same level. He should not jerk or bounce to reach at maximum distance. He should hold the full reach position for two seconds and the score should be recorded. Generally in such test warm up is not allowed, however, the results can be attained after suitable warm up. In case of sliding ruler or makeshift ruler the zero mark should be at the fingertips. If it is not available or simple marking is there the zero mark should be 9 inches before the feet.
- v. **Scoring:** The score is recorded to the nearest centimetre or half inch as the distance reached by the fingertips of both hands.
- vi. **Advantages:**
  - A It is a simple test to know the flexibility.
  - B It is an easy test to perform.
- vii. **Disadvantages:** This test is good for flexibility of joints of lower back and hamstrings and not related to the flexibility of other joints of the body.



#### 4. Partial Curl Up

- i. **Purpose:** The partial curl-up test measures abdominal strength and endurance, important in back support and core stability.
- ii. **Equipment required:** A flat, clean, cushioned surface, stopwatch, recording sheets, pen, and a metronome (or audio tape, drums).
- iii. **Procedure:** In this test the partner sits behind, the subject and cups the subject's head in their hands. The starting position is with the arms fully extended with fingers resting on the legs and pointing toward the knees. The subject curls-up slowly; sliding the fingers along the legs until the fingertips touch the knees, then back down again, until the head touches the partner's hands. One complete curl-up is completed every three seconds, and are continued until exhaustion (e.g. the subject cannot maintain the rhythm or has reached the target number for the test).
- iv. **Scoring:** The completion of one complete curl-up counts as one. Make sure that the subject does not "bounce" off the floor - only correctly performed curl ups should be counted. The timer begins the test by calling out the signal "ready? Go!". The stop watch is started at the same time, and at the conclusion of one minute the timer calls out "Stop" at which counting and the subject stop.
- v. **Advantages:** This test is simple and quick to perform requiring minimal equipment, and large groups may be tested at once.
- vi. **Disadvantages:** The partial curl-up test in which the feet are not supported measure of abdominal strength and endurance.

#### 5. Push Ups (Boys)

- i. **Purpose:** The aim of this test is to determine upper body strength and endurance.
- ii. **Equipment required:** Floor mat, PACER d with push up track.
- iii. **Procedure:** start in the push-up position - with the hands and toes touching the floor, the body and legs are in a straight line, feet slightly apart, and the arms at shoulder width apart, extended and at a right angle to the body. Keeping the back and knees straight, the subject lowers the body until there is a 90-degree angle at the elbows, with the upper arms parallel to the floor. A partner holds their holds at the point of the 90-degree angle so that the subject being tested goes down only until their shoulder touches the partner's hand, then back up. The push-ups are done in time to a metronome or similar device with one complete push-up every three seconds (1.5 seconds down and 1.5 seconds up, 20 complete push-ups per minute). The subject continues until they can do no more in rhythm (has not done the last three in rhythm) or has reached the target number of push-ups.
- iv. **Scoring:** Record the number of correctly completed push-ups that were performed in time to the rhythm.
- v. **Advantages:** This test is easy and quick to perform.

## 6. Modified Push Ups (Girls)

- i. **Purpose:** The aim of this test is to determine upper body strength and endurance.
- ii. **Equipment required:** Floor mat, PACER d with push up track.
- iii. **Procedure:** Lay down flat on the floor (on your stomach) as if you were going to do a regular push-up. Place your hands flat on the floor to where your elbows are up and outward at a ninety degree angle. (The proper way to begin *any* push-up.) Keep your knees on the floor as you push your upper body off of the floor. Be sure to keep yourself as straight as possible from your head to the bottom of your spine (where you are performing the push-up.) And don't forget to keep your elbows at a 90-degree angle. Slowly lower yourself in the same position as much as possible without your body touching the floor and continue with your modified push-ups if you wish to do so.
- iv. **Benefits of Modified Push-Ups:** There are many benefits to the Modified Push-Ups and just as many reasons you should incorporate them into your workouts. Push-ups are one of the best exercises anyone can do, but women especially! All in one exercise, you get the benefit of toning your arms, chest, shoulders, and core. Push ups tone up basically your entire upper body all the while helping you to torch calories and reveal toned and tight arms, shoulders, and abs. Here are just a few benefits of modified push-ups:

## 7. Standing Broad Jump (Long Jump)

- i. **Purpose:** To measure the explosive power of the legs
- ii. **Equipment required:** The measure to measure distance jumped, non-slip floor for take-off, and soft landing area preferred. Commercial Long jump Landing Mats are also available.
- iii. **Procedure:** A take-off line is marked on the ground. Subjects stands just behind the line with the feet several inches apart. The subject swings the arms and bends the knees to take a jump. Landing should be on both legs. Three trials are given to the subject. The distance is measured from the take-off line to the heel or other part of body that touches the ground nearest to the take-off line. Best of three will be counted.
- iv. **Scoring:** The measurement is taken from take-off line to the nearest point of contact on the landing (back of the heels). Record the longest distance jumped, the best of three attempts.
- v. **Advantages:** This test is simple and quick to perform, requiring minimal equipment.
- vi. **Disadvantages:** There is some skill component in this test.

## 8. Shuttle Run (4x10 M)

- i. **Purpose:** This is a test of speed, body control and the ability to change direction (agility).
- ii. **Equipment required:** Two wooden blocks for each runner (each block should measure 10 x 5 x 5 cm), marker cones or marking tape, measurement tape, stopwatch, flat non-slip surface, with two lines 10 meters apart.
- iii. **Procedure:** Mark two lines 10 meters apart using marking tape or cones. The two blocks are placed on the line opposite the line they are going to start at. On the signal "ready" , the participant places their front foot behind the starting line. On the signal, "got" the participant sprints to the opposite line, picks up a block of wood, runs back and places it on or beyond the starting line. Then turning without a rest, they run back to retrieve the second block and carry it back across the finish line- Two trials are performed.
- iv. **Scoring:** Record the time to complete the test in seconds to the nearest one decimal place. The score is the better of the two times recorded. A trial is void if a block is dropped or thrown. ,
- v. **Advantages:** This test can be conducted on large groups relatively quickly with minimal equipment required.

## Practical-2: Procedure for Asanas, Benefits & Contraindication for any two Asanas for each lifestyle disease.

### (I) Obesity

Obesity is that condition of the body in which the amount of fat increases to extreme levels. In other words, obesity can be defined as 'the condition when an individual weight 20 percent more than the ideal weight'.

#### 1. Vajrasana

**Procedure:** it is a meditative asana. Kneel down on the ground with your knees, ankles and toes touching the ground. Your toes should be stretched backwards. Now place your palms of both your hands on the knees. The upper body should be straight. At this time, the breathing should be deep, even and slow. Then expand your chest and pull your abdominal portion inwards.

#### Benefits:

1. It helps in reducing hip fat.
2. It enhances memory power.
3. It cures the problems related to menstruation.
4. It cures mental stress.
5. It strengthens the pelvic muscles.
6. It removes postural defects.
7. It prevents hernia and gives relief from piles.
8. It is the best meditation asana for people suffering from sciatica and sacral infections.
9. It is helpful in curing dysentery, back pain and chest diseases and also helpful for concentration.
10. It gives relief from constipation, acidity and increases digestive process.



Vajrasana

#### Contraindications:

1. A person suffering from joint pain should not perform Vajrasana.
2. The individuals who have and spinal column problem should not perform Vajrasana.
3. The individuals who have some difficulty in movement should practise Vajrasana with a lot of care.

#### 2. Trikonasana

**Procedure:** first of all stand with your legs apart. Then raise the arms sideways up to the shoulder level. Bend the trunk sideways and raise the right hand upward. Touch the ground with left hand behind left foot. After some time, do the same asana with opposite arm in the same way.

#### Benefits:

1. It strengthens the legs, knees, arms and chest.
2. It helps in improving digestion and stimulates all the abdominal organs.
3. It increases mental and physical equilibrium.
4. It reduces stress, anxiety, back pain and sciatica.
5. It helps in increasing height.
6. It helps in reducing obesity.
7. It enhances blood circulation.
8. It is also helpful in reducing excess fat around the waistline.

#### Contraindications:

1. If you are suffering from diarrhoea, low or high blood pressure, back injury or migraine, avoid the practice of it.
2. The individual having cervical spondylitis should not perform this asana.
- 3.



Trikonasana

### (II) Diabetes

It is really a very dangerous condition. If diabetes is not controlled, it can lead to renal failure, loss of vision, amputation of limbs and cardiovascular diseases. Diabetes is such a disorder that is caused sugar to build up in our stream instead of being used by the cells in our bodies. In fact, our body uses a hormone (insulin) to control the level of sugar in our blood. When our body does not produce sufficient amount of insulin or when insulin does not work properly, diabetes occurs. It is of two types.

**Type I:** in this type, the pancreatic gland does not produce insulin. Hence injection of insulin is required daily for its treatment.

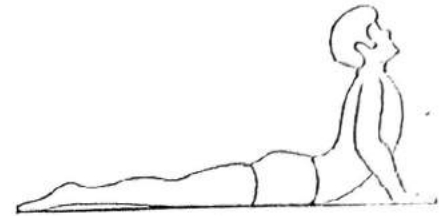
**Type II:** in this type, the body does not produce sufficient amount of insulin or the insulin is produced sufficiently but it is not used properly by the body.

### 1. Bhujangasana

**Procedure:** in this asana, the shape of the body remains like a snake that is why it is called bhujangasana. In order to perform this asana, lie down on the belly on the ground. Keep your hands near the shoulders. Keep your legs close together. Now, straighten up your arms slowly, raise the chest. Your head should turn backwards. Keep this position for some time. Then get back to the former position. For good result, perform this asana 3 to 5 times.

#### Benefits:

1. It alleviates obesity.
2. It provides strength and agility.
3. It cures the disorders of urinary bladder.
4. It cures the diseases of liver.
5. It improves blood circulation.
6. It makes the vertebral column flexible and thin.
7. It cures gas disorders, constipation and indigestion.
8. It strengthens the muscles of hands.



Bhujangasana

#### Contraindications

1. This asana should be avoided by individuals who suffer from hernia, back injuries, headaches and recent abdominal surgeries.
2. Pregnant women should not perform this asana.

### 2. Paschimottanasana

**Procedure:** Sit on the ground with legs forward. Then hold the toes of your feet with the fingers of both hands. Then breathe out slowly and try to touch the knees with your forehead. After that breathe in slowly, raise your head upwards and come to the prior position. Perform this asana at least 10 to 12 times.

#### Benefits:

1. It takes care of gas trouble.
2. It prevents the early ossification of bones.
3. It is a good remedy for constipation.
4. It helps to overcome several menstrual disorders.
5. It gives relief in sciatica, backache and asthma.
6. It reduces obesity.
7. It is helpful in treating abdominal diseases.
8. It is helpful in curing skin diseases.
9. Vertebra becomes flexible and healthy.



Paschimottanasana

#### Contraindications

1. If you are suffering from enlarged liver or spleen or acute appendicitis, you should never do this asana.
  2. Avoid practising this asana if you suffer from asthma or any respiratory diseases.
- If you have any back or spinal problem, make sure that you perform this asana only under expert guidance.

## (III) Asthma

Asthma is a disease of lungs in which the airways become blocked or narrowed causing difficulty in breathing. In asthma, the airways also swell up and produce extra mucus. It usually triggers coughing, wheezing or whistling and shortness of breath.

### 1. Sukhasana

**Procedure:** Sit down with the legs straight in front of the body. After that, bend the right leg and place the foot under the left thigh. Then bend the left leg and keep the foot under the right. Place the hands on the knees. Chin should be in. Keep the head, neck and back straight, close the eyes. Relax your body.

#### Benefits:

1. It facilitates mental and physical balance without causing strain or pain.
2. It stretches and lengthens spine.
3. It calms your mind.
4. It enhances your condition of peace.



Sukhasana

5. It reduces anxiety, stress and mental fatigue.
6. It helps in improving body posture.
7. It provides gentle massage to knees, calf muscles and thighs.
8. It spreads a sense of calmness throughout your body and mind.

#### Contraindications

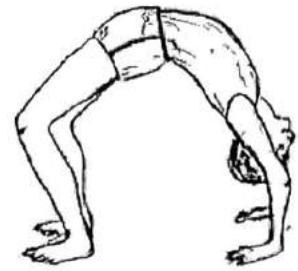
1. If your knees and hips are injured or inflamed, you should avoid practising this asana.
2. If you have a slip disc problem, you should take proper care while performing this asana.

## 2. Chakrasana

**Procedure:** In this asana, the figure of the body becomes like a chakra, therefore, this asana is called chakrasana. First of all, lie down on your back. Fix your hands firmly on the ground. Then raise the middle portion of your body upwards. Raise it as high as possible, so that your body is in semi-circle position. Then keep your head downwards between your hands. In the beginning, keep this position for one minute and then after some days of practice, do it for 3 to 5 minutes.

#### Benefits:

1. It cures back pain.
2. It cures any pain in kidneys
3. It is helpful in removing obesity.
4. It prevents the problem of hernia.
5. It stimulates pituitary and thyroid gland.
6. It cures infertility, asthma and osteoporosis.
7. It gives relief from stress and reduce depression.
8. The semi-circular position makes the dorsal side of the body to stretch making the chest to expand. Thus more fresh oxygen is made available.



Chakrasana

#### Contraindications

1. If you suffer from headache or high blood pressure you should not perform this asana.
2. Don't perform this asana in case of shoulder impingement.
3. Do not perform this asana if you have tendonitis in the wrists.
4. Individuals who suffer serious spinal column ailments such as cervical and lumbar spondylitis should avoid the practise of this asana.

## (IV) Hypertension

It means increased blood pressure. It has become a worldwide health problem because a great number of people are facing the problem of hypertension throughout the world. Though, it is a fact that blood pressure increases with the advancement of age. In yesteryears, hypertension used to be considered a middle-age problem but nowadays, youngsters also suffer from this problem due to their faulty lifestyles.

## 1. Tadasana

**Procedure:** Stand up in attention position. Lift your arms upwards. Stretch your hands upwards. Raise your heels, and come on your toes. Also pull up your body upwards. After some time breathe out slowly and come to the previous position. Repeat the same exercise 10/15 times.

#### Benefits

1. It is helpful in developing physical and mental balance.
2. It reduces obesity.
3. It cures constipation.
4. It cures digestive problems.
5. It improves body posture.
6. It alleviates sciatica.
7. It is an excellent asana for those who want to enhance their height.
8. It is beneficial in treating hypertension.



Tadasana

#### Contraindications

1. If you have low blood pressure you should not practise this asana.
2. In case of headache or insomnia you should avoid the practise of this asana.
3. Individuals, who suffer from blood circulation problems such as faulty valves, should not perform this asana.

**Equipment required:** 5 pound weight for women and 8 pound weight for men, a chair without arms and stop

## 2. Ardha Chakrasana

**Procedure:** Stand straight with both feet together. Hold your hips with your hands. Bend backward without bending your knees with slow inhalation. Remain in this pose for some time. Do it two to three times.

### Benefits

1. It helps to make ankles, thigh, shoulders, chest, spine and abdomen strong.
2. It relieves stress and tension.
3. It improves digestion.
4. It cures menstrual disorders.
5. It cures pain in legs.
6. It reduces fat in the waist and thigh.
7. It helps to alleviate upper back pain.
8. It relieves stress in the neck and shoulders.



Ardha Chakrasana

### Contraindications

1. Avoid this asana in case of hip or spinal problems.
2. Avoid practising this asana if you have peptic ulcer and hernia.
3. Avoid performing this asana if you have migraine, headache, low blood pressure, diarrhoea and insomnia.
4. Pregnant women should avoid doing this asana.

## (V) Back Pain

The pain which is felt in the back, usually originates from the bones, joint, muscles, nerves, etc. It may be in the cervical, thoracic or lumbar region. It may be spontaneous or can be chronic. It can be constant, affecting one region or radiate to other parts such as arms, hips or legs. It may give a feeling of burning sensation. Sometimes numbness may be felt in the legs or arms. The affected persons are not able to do their work smoothly and efficiently.

Back pain may result owing to bad personal health habits and personal risk factors such as overweight, lack of physical activity or exercise, excessive smoking, lack of flexibility or undue stress on back.

## 1. Ardhamatsyandrasana

**Procedure:** The left heel is kept under the right thigh and right leg is crossed over the left thigh. After that hold the right toe with left hand and turn your head and back to the right side. In this position move the trunk sideways. Then perform the same asana in the reverse position.

### Benefits:

1. It keeps gall bladder and the prostate gland healthy.
2. It enhances the stretchability of back muscles.
3. It alleviates digestive ailments.
4. It regulates the secretion of adrenaline and bile and thus is recommended in yogic management of diabetes.
5. It is also helpful in treating sinusitis, bronchitis, constipation, menstrual disorders, urinary tract disorders and cervical spondylitis.



Ardhamatsyandrasana

### Contraindications:

1. Women, who are two or three months pregnant should avoid practising this asana.
2. The individuals, who suffer from peptic ulcer, hernia or hypothyroidism, should practise this asana only under expert guidance.
3. The individuals who have the problem of sciatica or slipped disc may benefit from this asana but they need to take great care while doing this asana.

## 2. Shalabhasana

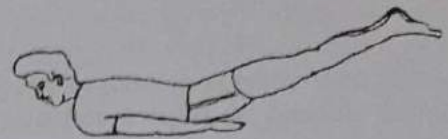
**Procedure:** In order to perform shalabhasana, lie down in prostrate position. Spread the thigh backwards. Hold your fists and extend arms. Keep your fists under the thigh and then raise your legs slowly as high as you can. For best results hold this position for two or three minutes and then lower your legs slowly. Repeat the same action for three to five times.



**Equipments required:** 5 pound weight for women and 8 pound weight for men, a chair without arms and stop

#### Benefits

1. It alleviates lower back pain.
2. It helps in removing constipation.
3. It improves posture.
4. It stimulates abdominal organs.
5. It helps in relieving stress.
6. It provides relief to persons who have mild sciatica and slip disc problem.
7. It strengthens the muscles of the spine, buttocks and back of the arms and legs.



Shalabhasana

#### Contraindications

1. People with a weak spine should avoid the practice of this asana.
2. The individuals with a weak heart, high blood pressure and coronary problems should avoid practising this asana.

Practical-4: Any one game of your choice out of the list above. Labelled diagram of field & equipment (Rules Terminologies & Skills).

\* Basketball, Football, Kabaddi, Kho-Kho, Volleyball, Handball, Hockey, Cricket, Bocce & Unified Basketball [CWSN (Children with Special Needs - Divyang)]