DIWALI WORKSHEET: 2023-24
STD – XI SCIENCE

PHYSICS (042)

Q1. Which of the following is the most precise device for measuring length :
(a) a vernier callipers with 20 divisions on the sliding scale
(b) a screw gauge of pitch 1 mm and 100 divisions on the circular scale
(c) an optical instrument that can measure length to within a wavelength of light ?

Q2. The Sun is a hot plasma (ionized matter) with its inner core at a temperature exceeding 10^7 K, and its outer surface at a temperature of about 6000 K. At these high temperatures, no substance remains in a solid or liquid phase. In what range do you expect the mass density of the Sun to be, in the range of densities of solids and liquids or gases? Check if your guess is correct from the following data : mass of the Sun = 2.0×10^{30} kg, radius of the Sun = 7.0×10^8 m.

Q3. A drunkard walking in a narrow lane takes 5 steps forward and 3 steps backward, followed again by 5 steps forward and 3 steps backward, and so on. Each step is 1 m long and requires 1 s. Plot the $x - t$ graph of his motion. Determine graphically and otherwise how long the drunkard takes to fall in a pit 13 m away from the start.

Q4. Establish the following vector inequalities geometrically or otherwise :
(a) $|a + b| < |a| + |b|$ (b) $|a + b| > ||a| - |b||$
(c) $|a - b| < |a| + |b|$ (d) $|a - b| < ||a| - |b||$

Q5. On an open ground, a motorist follows a track that turns to his left by an angle of 600 after every 500 m. Starting from a given turn, specify the displacement of the motorist at the third, sixth and eighth turn. Compare the magnitude of the displacement with the total path length covered by the motorist in each case.

Q6. An aircraft is flying at a height of 3400 m above the ground. If the angle subtended at a ground observation point by the aircraft positions 10.0 s a part is 30°, what is the speed of the aircraft ?

Q7. Given the magnitude and direction of the net force acting on a stone of mass 0.1 kg,
(a) just after it is dropped from the window of a stationary train,
(b) just after it is dropped from the window of a train running at a constant velocity of 36 km/h,
(c) just after it is dropped from the window of a train accelerating with 1 m s-2,
(d) lying on the floor of a train which is accelerating with 1 m s-2, the stone being at rest relative to the train.

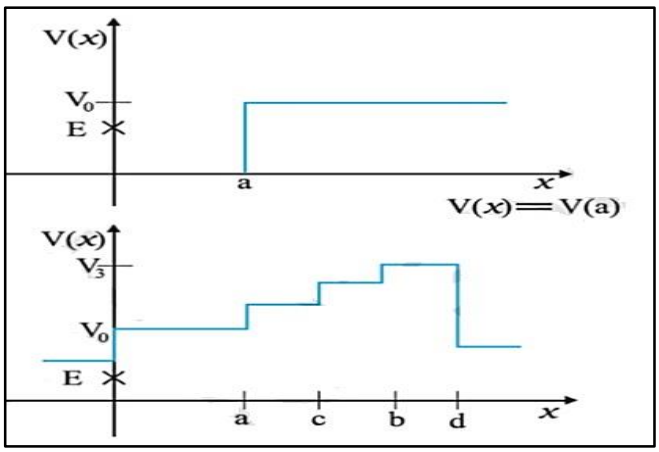
Neglect air resistance throughout.

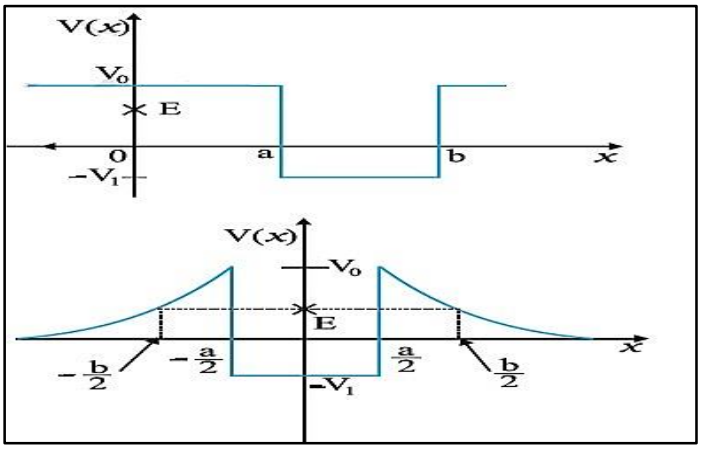
Q8. Answer the following :
(a) The casing of a rocket in flight burns up due to friction. At whose expense is the heat energy required for burning obtained? The rocket or the atmosphere?
(b) Comets move around the sun in highly elliptical orbits. The gravitational force on the comet due to the sun is not normal to the comet's velocity in general. Yet the work done by the gravitational force over every complete orbit of the comet is zero. Why?
(c) An artificial satellite orbiting the earth in very thin atmosphere loses its energy gradually due to dissipation against atmospheric resistance, however small. Why then does its speed increase progressively as it comes closer and closer to the earth?

Q9. Given in Fig. 5.11 are examples of some potential energy functions in one dimension.

The total energy of the particle is indicated by a cross on the ordinate axis. In each case, specify the regions, if any, in which the particle cannot be found for the given energy.

Also, indicate the minimum total energy the particle must have in each case. Think of simple physical contexts for which these potential energy shapes are relevant.



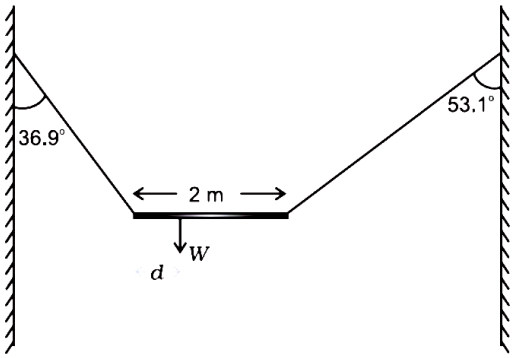


Q10. A person trying to lose weight (dieter) lifts a 10 kg mass, one thousand times, to a height of 0.5 m each time. Assume that the potential energy lost each time she lowers the mass is dissipated.

(a) How much work does she do against the gravitational force?

(b) Fat supplies 3.8 × 107J of energy per kilogram which is converted to mechanical energy with a 20% efficiency rate. How much fat will the dieter use up?

Q11. A no n-uniform bar of weight W is suspended at rest by two strings of negligible weight as shown in Fig.6.33. The angles made by the strings with the vertical are 36.9° and 53.1° respectively. The bar is 2 m long. Calculate the distance d of the centre of gravity of the bar from its left end.



Q12. Torques of equal magnitude are applied to a hollow cylinder and a solid sphere, both having the same mass and radius. The cylinder is free to rotate about its standard axis of symmetry, and the sphere is free to rotate about an axis passing through its centre.

Which of the two will acquire a greater angular speed after a given time.

Q13. The oxygen molecule has a mass of 5.30×10^{-26} kg and a moment of inertia of 1.94×10^{-46} kg m2 about an axis through its centre perpendicular to the lines joining the two atoms. Suppose the mean speed of such a molecule in a gas is 500 m/s and that its kinetic energy of rotation is two thirds of its kinetic energy of translation. Find the average angular velocity of the molecule.

Q14. Answer the following :

(a) You can shield a charge from electrical forces by putting it inside a hollow conductor. Can you shield a body from the gravitational influence of nearby matter by putting it inside a hollow sphere or by some other means?

(b) An astronaut inside a small space ship orbiting around the earth cannot detect gravity. If the space station orbiting around the earth has a large size, can he hope to detect gravity?

(c) If you compare the gravitational force on the earth due to the sun to that due to the moon, you would find that the Sun's pull is greater than the moon's pull.

(You can check this yourself using the data available in the succeeding exercises).

However, the tidal effect of the moon's pull is greater than the tidal effect of sun. Why?

Q15. Which of the following symptoms is likely to afflict an astronaut in space (a) swollen feet, (b) swollen face, (c) headache, (d) orientational problem.

Q16. Two heavy spheres each of mass 100 kg and radius 0.10 m are placed 1.0 m apart on a horizontal table. What is the gravitational force and potential at the mid-point of the line joining the centres of the spheres? Is an object placed at that point in equilibrium? If so, is the equilibrium stable or unstable?

MATHEMATICS (041)

Do as directed:

Q1. If $A = \{1, \{2,3\}\}$ find $P(A)$ and $n\{P(A)\}$.

Q2. Let A, B, and C be the sets such that $A \cup B = A \cup C$ and $A \cap B = A \cap C$. Then show that $B = C$.

Q3. Let $A = \{a, e, i, o, u\}, B = \{a, d\ e, o, v\}$ and $C = \{e, o\ t, m\}$. Using Venn diagrams, verify $A \cup (B \cap C) = (A \cup B) \cap (A \cup C)$.

Q4. Let $A = \{3, 5\}\ and\ B = \{7, 9\}$. Let $R = \{(a, b): a \in A, b \in B\ and\ (a - b)\ is\ odd\}$. Show that R is an empty relation from A to B.

Q5. Find the domain and range of real function f defined by $(x) = \sqrt{x - 1}$.

Q6. Let $f = \{(0, -5), (1, -2), (2,1), (3,4), (4,7)\}$ be a linear function from *z* into *z*, write an expression for *f*.

Q7. Prove that: $(1 + tan\alpha . tan\beta)^2 + (tan\alpha - tan\beta)^2 = sec^2\alpha . sec^2\beta$

Q8. Show that: $n\ 105^0 + \cos 105^0 = \frac{1}{\sqrt{2}}$.

Q9. Prove that: $(\cos\ x - \cos\ y)^2 + (\sin\ x - \sin\ y)^2 = 4sin^2(\frac{x-y}{2})$

Q10. Express $(-\sqrt{3} + \sqrt{-2})(2\sqrt{3} - i)$ in the form $a + ib$.

Q11. Find the argument, conjugate, modulus and multiplicative inverse of $1 + \sqrt{3}i$.

Q12. Solve the system of inequalities and represent the solutions on the number line:

$2(2x\ +\ 3) - 10\ <\ 6\ (x - 2), \frac{2x-3}{4} + 6 \geq 2 + \frac{4x}{3}$

Q13. The water acidity in a pool is considered normal when the average pH reading of three daily measurements is between 8.2 and 8.5. If the first two pH reading are 8.48 and 8.35, find the range of pH values for the third reading that will result in acidity level being normal.

Q14. If $10_{p_r} = 5040$ Find the value of *r*.

Q15. In how many ways can the letters of the word 'HEXAGON' be permuted? In how many words will the vowels be together?

Q16. If $(n + 1)!\ =\ 12\ \times\ [(n - 1)!]$, Find the value of *n*.

Q17. How many different selections of 4 books can be made from 10 different books, if?

i) There is no restriction?

ii) Two particulars are always selected?

Q18. Expand $(1 +\ x\ +\ x^2)^{\ 3}$ using binomial expansion.

Q19. Show that: $2^{\ 4n+4} - 15n - 16$, where $n\ \in\ N$ is divisible by 25.

Q20. Evaluate: $(2\ +\ \sqrt{3})^{\ 7} + (2 -\ \sqrt{3})^{\ 7}$.

Q21. In an A.P, it is being given that $\frac{T_4}{T_7} = \frac{2}{3}$. Find $\frac{T_7}{T_{10}}$.

Q22. If the sum of n terms of an A.P is $(cn\ + dn^2)$, where c and d are constants then show that the common difference of the AP is 2d.

Q23. Find the value of x such that $1\ +\ 4\ +\ 7\ + \cdots +\ x\ =\ 715$.

Q24. How many terms of the geometric series $1\ +\ 4\ +\ 16\ +\ 64\ +$ ... will make the sum 5461?

Q25. Find the sum of the series $3\ +\ 33\ +\ 333\ + \cdots$ to *n* terms.

PHYSICAL EDUCATION (048)

PRACTICAL - 1: FITNESS TESTS

MOTOR FITNESS TEST

Motor fitness refers to the capability of an athlete to take part effectively in his/her particular sport. It can also be said that a person's ability to do physical activities. The following test items are:

1) Modified Push Ups (Girls)
2) Push Up (Boys)
3) Sit And Reach
4) Standing Broad Jump
5) Partial Curl Up
6) 4 × 10 M Shuttle Run
7) 50 M Standing Start
8) 600 M Run/Walk.

1. Modified Push Ups (Girls)

(a) Purpose: To measure the upper body strength and endurance.

(b) Equipment required: A mat and paper to record the basic information like age, gender and push-ups performed.

(c) Procedure: The subject is asked to take starting positions, for modified push-ups hands and knees should touch themat/floor. Both hands should be shoulder width apart and elbows fully extended. The body from the knees, to the hips and to the shoulders should be in a straight line. While keeping this position, the subject should lower her upper body, so that elbows may bend to 90 degree. Then the subject returns back to the starting position.

(d) Scoring: Count the total number of modified push-ups for record.

2. PUSH UPS (BOYS)

(a) Purpose: To test or measure the upper body strength and endurance.

(b) Equipment Required: A floor mat and a paper to record basic information such as age, gender and total number of push-ups performed.

(c) Procedure: After proper warming up, ask the subject to take position. In a push up position hands and toes should touch the mat/floor. Hands should be shoulder width apart. The upper body and legs should be in a straight line. Elbows should be fully extended keeping the back and keens straight, the subject lowers the upper body so that elbows may bend to 90 degrees or chest may touch the mat /floor, then returns back to the starting position with the arms extended

(d) Scoring: Count the total number of push-ups for record.

3. SIT AND REACH

- The sit-and-reach test was first propounded by Wells and Dillon in 1952.

(a) Purpose: To measure the flexibility of hip region including the lower back and hamstring muscles.

(b) Equipment Requirement: sit and reach box or a makeshift ruler and a box may be used in which the 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.

(c) Procedure: First of all, Shoes 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. Palm should be facing downwards. Hand should be on top of the each other or side by side. The individual, whose flexibility is to be measured tries to extend his/her both hands forward along the measuring line on the box as far as he/she can extend.

(d) Scoring: the score is recorded to the nearest centimeter or half inches based on the distance reached by the fingertips of both hands.

4. STANDING BROAD JUMP

(a) Purpose: To measure explosive strength/ power of legs.

(b) Equipment required: A sandy long jump pit and a measuring steel tape.

(c) Procedure: A take-off line is marked on the ground. Subject stands just behind the take-off line with the feet several inches apart. The subject swings the arms and bends the knees to take a jump in the long jump pit.

(d) Scoring: The measurement is noted in feet and inches.

5. PARTIAL CURL UP

(a) Purpose: To test the strength and endurance of abdominal muscles.

(b) Equipment's required: A flat clean and cushioned surfaced, recording sheet and pen.

(c) Procedure: First of all, the complete test procedure is explained to the subject. After that the subject lies in supine on cushioned surface the knees should be flexed and feet should be 12 inches from the buttocks .Both the feet's should be slightly apart. Arms are extended and rested on thighs. Head should be in neutral position. This is the starting position. Then, the subject curls up with a slow controlled movement, until his/her shouldered come off the cushioned surface or mat two inches then back down again.

(d) Scoring: Record the total no of partial curl ups. It should not be counted if the shoulders are not raised up by two inches.

6. 4 × 10 M SHUTTLE RUN

(a) Purpose: To measure agility

(b) Equipment required: Two wooden blocks, marker cones, measuring tape, stopwatch and a flat surface with two lines 10 m apart

(c) Procedure: Mark two parallel lines 3 meters in length, 10 meters apart using marking tape or cones, considering one line as starting line. On the signal 'go' the subject runs to the wooden blocks, lifts one block, returns to the starting line and places the block behind the line. Then the subject returns to the second block, lifts it and then runs across the starting line on the way back.

(d) Scoring: Record the best time to complete the test in seconds.

7. 50 M STANDING START

(a) Purpose: To Determine Speed.

(b) Equipment Required: Measuring Tape to Marked Track, 2 Stop Watches.

(c) Procedure: An area of 50 m is marked on a track. Two parallel lines are drawn 50 m apart considering one as the starting line. The subject takes the starting position behind the starting line. The starter commands 'Ready' and 'Go'. The word Go is accompanied by a downward sweep of the starters arm as a signal to the timer. Two subjects can run at the same time if there are two stopwatches.

(d) Scoring: The score is recorded in seconds.

8. 600 M RUN/WALK

(a) Purpose: To Measure Endurance.

(b) Equipment Required: 600 MTS Track And Stop Watches.

(c) Procedure: The subject takes the position of standing right behind the starting line at the signal of ready and go the subject starts running. During the course of running he/she may walk also. Many students can run at a same time.

(d) Scoring: Time is recorded in minutes and seconds.

PRACTICAL-2: ASANAS FOR LIFESTYLE DISEASE

1. OBESITY:-Now days obesity has become a problem for the whole world obesity is a condition in which the amount of fat in the body increase to a very large extent. If a person is having BMI-30 he/she would be considered as obese. In other words, we can say obesity is when a person's weight is 20%or more than the ideal weight. There are two main reasons for obesity the bad habits of eating and deterioration of the

digestive system. In such a person's life, there is no physical activity at all.

- **VAJARASANA : (THUNDERBOLT POSE)**
  - **(a) Procedure:** Sit and keep both leg straight. Fold right leg and place it under right butt. Fold left leg and place it under left butt. Keep your spine, neck and head straight, interlock your toes, open your ankle and sit on it. Knees should be touching the ground with each other. Keep both hands on your knees and look straight.
  - **(b) Benefits:** This asana is for meditation.
    i. Strengthens pelvic muscles.
    ii. It can be practiced after having food. It enhances digestion process.
    iii. Stabilizes mind and body.
    iv. Helps in sciatica
    v. It cures indigestion and improves metabolism.
    vi. Improves flexibility in ankles.
    vii. It gives strength to the tight muscles.
    viii. Improve blood circulation.
  - **(c) Contraindications :**
    i. Vajrasana should not be practiced by the people who have severe arthritis of the knee.
    ii. Runners should avoid this if they have injury in their hamstrings or the calves.
- **TRIKONASAN (TRIANGLE POSE)**
  - **(a) Procedure:** While inhaling stretches your right hand towards sky, arm should touch the ear. Bend left side slowly while exhaling, till it comes horizontal to the earth. Left hand should touch the ground or touch the left leg, knee should be straight. Inhale, come back to starting position. Change hand position and repeat it from another side.
  - **(b) Benefits:**
    i. Trikonasana helps in digestions.
    ii. Therapeutics for stress, anxiety, infertility, neck pain, sciatica.
    iii. Heals Backache (in initial stage)
    iv. Help women during their menstrual cycle.
    v. Improve flexibility of vest and spine.
  - **(c) Contraindication**:-
    i. Avoid if having low or high blood pressure.
    ii. Avoid this pose if having any kind of neck injury.
    iii. Avoid if having back injury.
    iv. Avoid if an athlete having hamstring injury.

2. DIABETES

Diabetes is commonly known as metabolic disorder characterized by high blood sugar level over a prolonged period. Diabetes is due to either the pancreas not producing enough insulin or the cell for the body not responding properly to the insulin produced, Due to diabetes the individual has fatigue, frequent urination, increased thirst and increased Hunger. It may cause blurred vision, Kidney failure, cardio vascular disease, loss of weight etc.

- **ARDHYAMATSYENDRA**
  - **(a) Procedure:** Sit and keep both legs straight bending the knee of the right feet and put right heel below the left hip. Bend left leg and placed the left foot to the right side of the right knee. Keep left knee closed to the chest. Exhale from the right nostril and turns towards left and touch the toe of the left leg from the right hand. Body and head moves towards the left. Repeat while changing the position of legs.

(b) Benefits:

i. Help nervous system and strengthen the back bone,
ii. Stretching improves flexibility and tones the muscles.
iii. Controls menstrual cycle in women and brings shine on face.
iv. Also controls secretion from pancreas gland.
v. Reduces fat and helps in controlling obesity.
vi. This pose flexes the lower part of the body making the hip stronger and toned.

- **PASCHIMOTTANASANA:**

(a) Procedure: Sit down with your legs stretching straight in front of you. Keep your head, neck and spine erect and stretch hands upwards with a deep breath. Now, exhale and bend your head and trunk slowly forward to catch the toes with the thumb. Try to touch head, chest and stomach to the legs and elbows to the floor.

(b) Benefits:

i. It improves digestive system and much blocked gas get released.
ii. Improves the respiratory system.
iii. Improve the alignment of the vertebral column.
iv. Helps as a therapy for diabetic patient, with weak lever and kidney.
v. Benefits women during menstrual disorder.

(c) Contraindications:

i. Avoid of having slip disc problem.
ii. Someone who is suffering from hernia should avoid this pose.
iii. Pregnant women should avoid this pose.
iv. Person having Spondylitis should avoid this pose.

3. ASTHMA

Asthma, a disease associated with the respiratory tract swelling occurs, which makes the tracts very sensitive and makes this process pungent with the touch of any effective thing.

These reactions cause contraction in the tubes this reduces the amount of air in the lungs. Due to which it become difficult to breath. Common symptoms of asthma are coughing, heavy breathing. Chest tightness, fatigue, pain in hands, feet, shoulders and back. Reasons are dust, smoke, air pollution, pollen grains, animal's skin, hair or feathers etc. are the main reasons.

- **PARVATASANA:** While performing this asana body resembles like a mountain that's why it's named as parvatasana. It is a very easy asana.

(a) Procedure: Sit in padmasana pose on ground. Raise both hands by side ward while inhaling and joint together upward above the head. Exhale and come at initial position.

(b) Benefits:

i. It helps to spinal problem.
ii. Strengthens the muscles of arms
iii. If increase the blood flow to the brain.

(c) Contraindications :

i. It should not be practices if one has wrist, hip or ankle injury.
ii. It should not be practice while spinal injury.

- **GOMUKHASANA:** This asana gets its name because while doing this asana body resembles a cow face pose. In English it is called the cow face pose.

(a) Procedure: Sit in sukhasana or dandasana pose. Place the ankle of left leg near right but under the anus. Place the right leg over the left leg so that knees should place over left knee. Sweep your left hand behind your back, facing palms upwards. Sweep your right hand over the right shoulder,

bend your elbow and place it behind your back. Now inter lock fingers of both hands behind your back. Now stretch both hands in their respective directions. Look straight. Repeat with changing leg position.

(b) Benefits:

i. Helps in curing Asthma, reduce weight makes body flexible and attractive.
ii. It helps to make spine strong and erect.
iii. Helps to make abdominal organ function well.
iv. It helps to circulate blood to the entire body.

(c) Contraindications:

i. Person having stiff shoulder should avoid this.
ii. Any kind of hip problem or knee, hamstring and quadriceps should be avoided.
iii. If one has to sciatica problem, one should avoid this pose.

4. HYPERTENSION: High blood pressure is a condition in which the strength of blood against the walls of the artery is very high. All these factors can lead to high blood pressure. The main function of the heart is to supply pure blood to the various parts of the body through different arteries when the heart contract it pushes the blood through blood vessels and consequently the blood pressure increase in arteries this pressure is known as systolic blood pressure it is represented by the first number the pressure between two heartbeats is called diastolic blood pressure it is represented by bottom or second number these two number of blood pressure are measured in mm/Hg. Unit means millimeter of mercury. The normal blood pressure of an adult is considered 120/80mm/ Hg. The person whose blood pressure readings are beyond 140/90 mm/Hg are said to be having hypertension.

- **ARDH CHAKARASANA:**

(a) Procedure: Stand straight and keep your hand close to your body. Place your hands on your buttocks. Breathing gently, bends backwards while keeping the knees straight. Stay for sometime in this position. Come back to starting position.

(b) Benefits:

i. Strengthen back bone.
ii. High BP comes to normal.
iii. Tones the arms and shoulder muscles.

(c) Contradictions: Keep knees straight while bend backwards.

- **PAVANMUKTASANA:**

(a) Procedure: Lie flat on your back and keep the legs straight. Inhale slowly and lift the legs and bend the knees. Bring knee upwards to the chest till your thigh touches the stomach. Hug your knees and lock your fingers, touch your chin to the knee while exhaling. Repeat it with another leg.

(b) Benefits:

i. Strengthen the back and abdominal muscle, leg and hip.
ii. Intestine gets massaged; also bring fresh blood to lower abdomen.
iii. Helps in spondolytis.
iv. Remove excess fat around the lower abdomen.
v. Release excess heat, toxins from organs and tissues.

(c) Contraindications:

i. Avoid while suffering from severe back or neck pain.
ii. Avoid this pose completely, if having slip disc problem.
iii. Those with internal organs issues may find this pose difficult and painful.
iv. It should be avoided while pregnancy.

PRACTICAL-3: GAME AND SPORTS

➢ HISTORY OF BASKETBALL

Basketball was invented in 1891 by Dr James Naismith, a Canadian of Scottish descent at Springfield College Massachusetts. The college was the International YMCA Training School and the game was invented to provide an indoor activity for trainee YMCA leaders.

When the game was first played, peach baskets were nailed up at each end of the gymnasium as "goals", hence the origin of the name "basketball". The first set of rules was published and distributed through the YMCA movement in 1892 and this resulted in the game spreading rapidly throughout Canada and the USA. 1892 also saw the game played in England for the first time at Birkenhead YMCA after the Club President was the game played whilst on a business trip to Canada. In 1893 the game was introduced into the Physical Training College in Hampstead (now Dartford College of PE) by Madame Berman Osterberg. Changes to the game to suit the girls led to the first rules of netball being published in 1901.

By in 1924 it was introduced as a demonstration sport at the Paris Olympic Games and Great Britain won the title. 1927 saw Abe Saperstein a Londoner from the world famous Harlem Globetrotters and in 1931 FIBA the International Basketball Federation was formed with a Welshman as its first secretary.

The England Basketball Association was formed in 1936, 13 years before the NBA was formed in America, and by 1957 the English Schools Basketball Association was formed. By 1990 there were 117 member countries in FIBA making basketball the second largest of all the world's governing bodies and also the world's fastest growing and largest participation sport. It is also used widely as a community activity as anyone of any age or gender can participate.

➢ GROUND MEASUREMENTS

MAIN TIPS AT A GLANCE

1. Numbers of teams = 2
2. Numbers of court players in team = 5
3. Number of substitutes in a team = 7
4. Total players = 12
5. Size of basketball court = 28X15m
6. Radius of centre circle = 1.80m
7. Breath of boundary lines = 5cm
8. Thickness of black board = 3cm
9. Height of lower edge of board from the floor = 2.90m
10. Circumference of the ball = 75cm to 78cm
11. Weight of ball = 600gm to 650gm
12. Duration of basketball game = Four duration of 10 minute each
13. Interval between two duration = [10-2-10-10-10-2-10]
14. Officials = 5(1-Referee, 1-Umpire, 1-scores, 1-Time keeper, 1-24 Second operator)

➢ LATEST GENERAL RULES

1) Now the length of the basketball court is15m×28m.
2) Now the leather ball is used in basketball competitions.
3) The last 2 minute play before the end of the game should be played in real sense and not to pass the time.
4) Now three time-outs are provided during the game to each team but in first half only two time-out will be given to each team.
5) The poles should be at least 2m away from the end line.
6) Now the throw can be given from the end line.
7) 30 seconds ruled has been changed to 24 seconds.
8) Now there are four periods of the game that is 10-10-10-10 minutes.

9) A rectangular shaped restricted area has been introduced.

10) The distance of three points line has been extended to 6.75m whereas, earlier it was 6.25m.

11) No charge semi-circle have been introduce. The radium of the circles shall be 1.25m frame the point on the floor beneath the exact centre of the inner edge of the semi-circle.

➢ FUNDAMENTAL SKILLS OF BASKETBALL

1. **Handling the ball**
2. **Passing**
   - (a) Chest or push pass (b) Baseball pass (c) Underhand
   - (d) Overhead pass (e) Two handed bounce pass (f) Hock pass
   - (g) Flip pass (h) Tip or valley pass (i) Back pass
3. **Pivoting**
4. **Dribble**
   - (a) High dribble (b) Low dribble
5. **Shooting**
   - (a) Two hand shot (b) Hook shot
   - (c) Lay up shot (d) Jump shot
6. **Rebounding**
7. **Defense**
8. **Dodge**
   - (a) To doge with single (b) By speed (c) By escape
9. **Free throw**
10. **Offensive strategy**
    - (a) Faking (b) Screening
    - (c) Triangular attack (d) Zonal attack
11. **Defensive Attack**
    - (a) Blocking (b) Tracking (c) Zonal Defense
    - (d) Guarding (e) Man to man defense

➢ BASKETBALL TERMINOLOGY

In order to contribute to basketball conversations, you'll need to learn the language. Below is a list of the most common basketball terms and phrases alongside their definitions.

1) **Assist:** A pass directly leading to a made basket.
2) **Block:** Touching a ball before it reaches the hoop, preventing a made basket.
3) **Center:** Typically the tallest player on the court who plays closest to the basket.
4) **Crossover:** Switching the ball from one hand to the other while dribbling.
5) **Defense:** The team without possession of the ball.
6) **Dribbling:** Bouncing the ball off the floor repeatedly without picking it up.
7) **Field goal:** When the ball goes through the hoop on any shot other than a free throw, worth either two or three points.
8) **Forward:** The 2nd tallest players on the floor after the Center.
9) **Free throw:** A shot awarded after a player is fouled, worth one point.
10) **Guard:** The smaller players on the court who handle the ball most and play away from the basket.
11) **Offense:** The team in possession of the ball.
12) **Pass:** To throw the ball to one's teammates.
13) **Rebound:** To gather the ball after a missed shot.
14) **Shot:** An attempt to throw the ball into the hoop.
15) **Three-point-line:** The semi-circle surrounding the key. Shots made from beyond this line count for three points.