



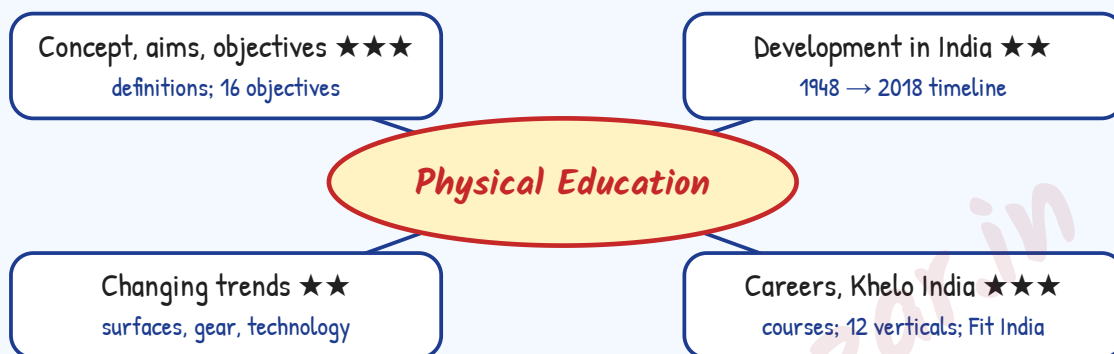
move · learn · grow

Unit 1

Changing Trends and Career in Physical Education

CBSE PE (048) syllabus 2026-27 · CBSE textbook Class XI, Unit 1 · 4 + 4 marks

Chapter map (★ = most important for exams)



What is inside

1. Concept notes with tables and a timeline (p. 2-6)
2. CBSE textbook exercises (all), fully solved (p. 7-8)
3. **Important exam questions, fully solved** (p. 9-11)
4. Quick-reference sheet; practice A-G, 20 MCQs, 6 A-R, answers, summary (p. 12-16)

Colour code used

red = key term green = definition
purple = sub-heading black = explanation
★ = high-frequency exam topic

★ **Exam tip:** Learn one definition with its author, the years on the timeline (p. 3) and the Khelo India numbers (2017-18, 12 verticals, 16 priority sports, Rs 5 lakh for 8 years). These give the 1- and 2-mark answers.

This unit in the exam (Theory 70 marks; this unit 4 marks + 4 marks b*)

question type	marks	likely asked from this unit
MCQ / Assertion-Reason	1	definitions and their authors; years; LNIPE, NIS, SAI; Khelo India facts
very short / short answer	2 / 3	aims and objectives; playing surfaces; officiating technology; career options; Fit India
case study	4	a student choosing a career; a school applying Khelo India; technology in a match
long answer	5	objectives of PE; development of PE in India; Khelo India verticals

The Class 11 paper follows the same 048 pattern as Class 12 (sections A-E). b* = alternative question for visually impaired candidates.

1.1 Concept, aims and objectives of Physical Education ★★★

Physical = related to the body (strength, endurance, fitness, health); **education** = preparation for life, systematic instruction.

Physical Education is a systematic process of education that aims at the all-round development of an individual through physical activity and movement. It is "**education through movement**"; the modern view calls it **movement education**, aiming at overall fitness and wellbeing, not only physical fitness.

Definitions

author	definition
Delbert Oberteuffer	"the sum of those experiences which come to the individual through movement"
Charles A. Bucher	"an integral part of the total educational process ... whose aim is the improvement of human performance through the medium of physical activities selected with a view to realising this outcome"
Jesse Feiring Williams	"the sum of man's physical activities selected as to kind, and conducted as to outcomes"
Jay B. Nash	"that phase of the whole field of education that deals with the big muscle activities and their related responses"

Aim

The **optimal and wholesome development** of the individual for complete living. National Plan of Physical Education and Recreation: "to make every child physically, mentally and emotionally fit and also to develop in him such personal and social qualities as will help him to live happily with others and build him up as a good citizen".

Movements: **locomotor** (walking, running, hopping, leaping, skipping, galloping) and **non-locomotor** (stretching, twisting, turning, pushing, pulling, swinging).

Objectives of Physical Education (16)

1. **Value of PE:** appreciate its contribution to an active, healthy life.
2. **Interest** in the discipline: initiative, enthusiasm, commitment.
3. **Optimum physical fitness and health;** healthy habits of sleep, exercise, food.
4. **Awareness of movement** as a creative medium of expression (dance).
5. **Development of organ systems:** respiratory, circulatory, digestive, nervous, muscular.
6. **Neuromuscular coordination:** better relation between nerves and muscles; control and balance.
7. **Emotional development:** accepting success and failure; controlling anger, fear, jealousy.
8. **Social development:** cooperation, obedience, fair play, sacrifice, loyalty, sportsmanship.
9. **Motor skills** for successful participation.
10. **Enjoyment and satisfaction.**
11. **Evaluative skills:** judging one's own and others' performance.
12. **Interpretive development:** reflecting on activity in local and cultural contexts.
13. **Character building:** morality, self-esteem, resilience, pro-social behaviour.
14. **Remedial values:** safety habits, corrective exercises.
15. **Optimum sports performance.**
16. **Effective citizenship.**

★ **Exam tip:** For 5 marks write any five objectives, each with one line of explanation. Physical, mental (emotional), social and moral development are the four headline objectives.

1.2 Development of Physical Education in India after independence ★★

year	event
1920	(before independence) YMCA College of Physical Education , Chennai, by Harry Crowe Buck : the first PE college in Asia
1948	Central Government Physical Education Committee: the Tara Chand Committee ; recommended a central institute of PE and better standards in games
1950	Central Advisory Board of Physical Education and Recreation (CABPER) to advise the government; aim to make PE compulsory
1951	First Asian Games , New Delhi
1953	Coaching scheme for games and sports by health minister Rajkumari Amrit Kaur
1954	All India Council of Sports (liaison between government and federations); state and district sports councils
1956	National Plan of Physical Education and Recreation (by CABPER), promoting indigenous activities
1957	Lakshmibai College of Physical Education (LCPE) , Gwalior : first PE college after independence
1958	Sports and Youth Welfare Department, Ministry of Education
1959	National Physical Efficiency Drive
1961	National Institute of Sports (NIS) , Moti Bagh, Patiala : to produce qualified coaches
1965	National Fitness Corps
1970-71	Rural Sports Tournament scheme; Sports Talent Search Scholarship scheme
1973	LCPE renamed Lakshmibai National College of PE (LNCPE)
1975	National Sports Championship for Women
1982	IX Asian Games, New Delhi
1984	Sports Authority of India (SAI) : to maintain the Asian Games infrastructure, promote sports and excellence
1987	SNIPES (Society for National Institutes of PE and Sports) merged with SAI
1995	LNCPE became a deemed university: Lakshmibai National Institute of PE (LNIPE) , Gwalior
2010	XIX Commonwealth Games, New Delhi
2018	CBSE makes Health and PE compulsory for classes IX-XII (and from 2019 a daily period for classes I-VIII)

Main threads of development

- **Committees and advisory bodies**: Tara Chand Committee (1948), CABPER (1950), All India Council of Sports (1954) to plan policy.
- **Professional institutions**: LCPE Gwalior (1957) → LNCPE (1973) → LNIPE deemed university (1995); NIS Patiala (1961) for coaches.
- **Mass fitness schemes**: National Physical Efficiency Drive (1959), National Fitness Corps (1965), Khelo India (2017-18), Fit India (2019).
- **Talent and competitions**: rural sports (1970-71), talent search scholarships, women's championships (1975), hosting Asian Games (1951, 1982) and CWG (2010).
- **Infrastructure and administration**: SAI (1984) and its merger with SNIPES (1987).
- **School curriculum**: PE compulsory in CBSE schools (2018-19).

X Don't do this: Do not confuse: **LNIPE is at Gwalior** (education of PE teachers); **NIS is at Patiala** (coaches). The 1948 committee = **Tara Chand**; the 1953 coaching scheme = **Rajkumari Amrit Kaur**.

★ **Exam tip:** A 5-mark answer "development of PE in India after independence" = 8-10 dated events from the table, grouped under the threads above.

1.3 Changing trends in sports ★★

Playing surfaces

Chosen by the nature of the sport, climate, location and infrastructure. Natural grass and clay are traditional; synthetic surfaces are now common because they are easy to maintain and usable in bad weather; indoor surfaces allow year-round play.

surface	features
clay and cinder (natural track)	fine ash, carbon and rock; soft and comfortable; hard to keep even in rain and wind
synthetic track	rubber particles bound with latex or polyurethane on asphalt/concrete; best traction and performance
grass and clay turf	natural, soft, low-impact (fewer overuse injuries); needs a lot of care
polygrass	synthetic grass, looks like grass, durable, low maintenance; approved for football
astroturf	synthetic, even surface with less friction; ball moves faster: hockey
MUGA (multi-utility games area)	synthetic rubber, high shock absorbency, safe for many activities, outdoor and indoor
indoor courts	wooden or synthetic (rubberised, acrylic); badminton mats on wood; year-round play

Natural surfaces: cinder, clay, grass. **Synthetic**: astroturf, polygrass, acrylic, rubberised tracks, MUGA.

Wearable gear and equipment

- **Safety**: lighter, stronger helmets; modern gloves and guards.
- **Performance**: low-friction swimsuits; aerodynamic boots and shoes.
- **Monitoring and judgement**: GPS vests, heart-rate and body-chemistry sensors for coaches.
- **Aesthetics**: trendy activity wear for athletes and fitness enthusiasts (confidence, sponsorship).

Technological advancements

1. **Officiating technology**: LED stumps and bails (cricket); **Hot Spot** infra-red imaging (bat-ball contact); video replays and **VAR** (football); **laser** for foul detection (take-off boards) and 3-D scoring in gymnastics; Hawk-Eye.
2. **Protective equipment**: advanced materials for safer, comfortable gear.
3. **Timing systems**: gates, laser and touch sensors, accurate to 1/1000 s.
4. **Location tracking**: GPS to track players' movement and crowds.
5. **Biomechanical and movement analysis**: video analysis software, sensors on bats, balls and rackets, **force plates** for ground reaction force.

Advantages of technology: fair and accurate decisions, better performance analysis, injury prevention, precise records, spectator enjoyment, better training.

1.4 Academic courses and career options in Physical Education



Courses recognised by NCTE

NCTE = National Council for Teacher Education. It recognises only three courses for PE teachers:

course	prepares teachers for
D.P.Ed. (Diploma in PE)	elementary stage: classes I–VIII
B.P.Ed. (Bachelor of PE)	theory in classes VI–X and activities for XI–XII
M.P.Ed. (Master of PE)	senior secondary XI–XII; assistant professors, sports officers, teacher educators

Research: M.Phil., Ph.D., post-doctoral fellowship. Other courses (UGC or institution recognised): PG diplomas (adventure sports, disability sports, fitness management, sports coaching, journalism, management, nutrition, yoga), B.P.E.S., B.Sc. exercise physiology, M.Sc. sports biomechanics, sports psychology, M.Tech. sports technology, MBA sports management.

★ **Exam tip:** B.P.E.S. (Bachelor of Physical Education and Sports) is a university degree, **not** an NCTE teacher course.

Career options

career	qualification / skill
Physical Education teacher	D.P.Ed., B.P.Ed., M.P.Ed.
health education teacher	PE degree (health education paper)
professional coach	diploma in sports coaching (NIS)
sports coordinator, administrator	organising, supervision skills
event manager of a sports club	MBA in sports management
fitness trainer, health club manager	PE degree, fitness certification
yoga trainer	yoga diploma or degree
dietician, sports nutritionist	nutrition course
physical therapist	therapy training
sports journalist, commentator	sports journalism course
sports goods marketing; clothing and equipment designer	marketing; design (sports technology)
outdoor and adventure educator; recreation provider	adventure sports training
adapted PE teacher	training in disability sports
referee, umpire, judge	officiating course and certification by the federation

Apart from a degree, careers outside teaching need **communication, leadership, management, computer and marketing skills, first aid, and specialisation.**

1.5 Khelo India Programme; 1.6 Fit India Movement ★★★

Khelo India: National Programme for Development of Sports was launched by the **Ministry of Youth Affairs and Sports** in **2017-18** (cabinet approval 20 September 2017; budget Rs 1,756 crore for 2017-18 to 2019-20). Only about 5% of Indians play sports; the programme aims to change that.

Two objectives: mass participation and promotion of excellence.

Vision: a sports culture at the grassroots and sporting excellence.

Mission: "to encourage sports for all", across gender and age, for holistic development of children and youth, community development, social integration, gender equality, healthy lifestyle, national pride and economic opportunities.

The 12 verticals

1. **Play field development** (up to Rs 50 lakh one-time to states)
2. **Community coaching development** (2000 PETs trained as master trainers a year; LNIPE and SAI)
3. **State-level Khelo India centres** (SAI; Khel Pathshalas online)
4. **Annual sports competitions:** Khelo India School, Youth and University Games
5. **Talent search and development:** 16 priority sports; Rs 5 lakh a year for 8 years
6. **Utilisation and creation of sports infrastructure**
7. **Support to national, regional and state sports academies**
8. **Physical fitness of school children** (fitness kits, grading of schools)
9. **Sports for women**
10. **Sports for peace and development** (special package for Jammu and Kashmir, disturbed areas)
11. **Promotion of sports among persons with disabilities** (SAI, Paralympic Committee of India)
12. **Promotion of rural and indigenous/tribal games**

16 priority sports: archery, athletics, badminton, basketball, boxing, football, gymnastics, hockey, judo, kabaddi, kho-kho, shooting, swimming, volleyball, weightlifting, wrestling.

First Khelo India (Youth) Games 2018: Haryana topped the medal table (38 gold), followed by Maharashtra and Delhi. The **Khelo India App** was launched on 27 February 2019.

Fit India Movement

Launched by Prime Minister Narendra Modi on **29 August 2019** (National Sports Day, Major Dhyani Chand's birthday) to make fitness an integral part of daily life. Motto: "Swasth vyakti, swasth parivar aur swasth samaj, yahi naye Bharat ko shreshth Bharat banane ka raasta hai."

Objectives: (1) promote fitness as **easy, fun and free**; (2) spread awareness through focused campaigns; (3) encourage indigenous sports; (4) take fitness to every school, college, panchayat and village; (5) a platform for citizens to share fitness stories.

Initiatives: Fit India School certification (flag and star ratings), Fit India Freedom Run, Fit India Cyclothon, Fit India Week in schools, Fit India Quiz, Fit India Mobile App (2021).

★ **Exam tip:** Khelo India = sports **development** (participation + excellence, talent); Fit India = **fitness** as a habit for every citizen (behaviour change).

CBSE textbook exercises, fully solved

1.1 Concept and objectives

1.1 In Williams's definition, "activities selected as to kind" refers to activities that are: i. based on desired outcomes ii. based on physical activities iv. based on planned outcomes

Ans. ii. based on (the kind of) physical activities: "selected as to kind" means chosen for their type; "conducted as to outcomes" refers to results.

1.2 PE uses the body to exhibit feelings, which develops: i. expression ii. creativity iii. emotional stability iv. intellectuality

Ans. i. Expression

1.3 The key process in PE: i. evaluating performance ii. checking competency iii. making efforts iv. developing skills

Ans. iv. Developing skills

11.1 Define Physical Education.

Ans. "Physical Education is the sum of those experiences which come to the individual through movement" (Oberteuffer): a process of education aiming at all-round development through physical activity.

11.2 How does PE develop neuromuscular coordination?

Ans. Repeated practice of skills trains the nervous system to send correct signals to the right muscles at the right time; this improves control, balance, timing and smoothness of movement, reduces wasted energy and fatigue, and speeds reaction.

11.3 How can PE contribute to moral and character building?

Ans. Games teach rules, honesty, fair play, respect for opponents and officials, discipline, self-control, resilience after failure and sacrifice for the team; these become character traits for life.

111.1 How does PE contribute to an individual's development?

Ans. Physical (fitness, organ systems, motor skills), mental and emotional (stress relief, emotional control, confidence), social (cooperation, leadership, sportsmanship), moral (character, honesty) and intellectual (decision-making, evaluation) development, leading to a good citizen.

111.2 What is the modern concept of PE?

Ans. PE is no longer just drill or games; it is **movement education**: education **through** movement for the overall fitness and wellbeing of the whole person (physical, mental, social, emotional). Students explore movement, solve movement problems in their own way and learn lifelong healthy habits; it is an integral part of total education.

111.3 Explain Bucher's definition with examples.

Ans. Bucher says PE is part of total education, not separate from it, and its aim is improving human performance through physical activities chosen for that purpose. In practice: a teacher selects relays to improve speed and teamwork, yoga for flexibility and calm, and games that teach strategy, so that each activity is chosen for a clear outcome and contributes to the student's overall education.

111.4 What are the objectives of PE?

Ans. Any five or more from the list on p. 2 with explanation.

1.2 Development in India

1.1-1.3 Where is LNIPE; the 1948 committee; SAI stands for.

Ans. 1. iv. Gwalior 2. a. Tara Chand Committee 3. c. Sports Authority of India

11.1 Committees constituted for the development of PE after independence.

Ans. Tara Chand Committee (1948): recommended a central institute of PE and improved standards. CABPER (1950): advised the government; prepared the National Plan (1956). All India Council of Sports (1954): liaison between government and federations, with state and district councils.

11.2 Development of the first professional institution of PE after independence.

Ans. LCPE was set up at Gwalior in 1957 by the Ministry of Education and Culture; renamed LNCPE in 1973; given deemed-university status in 1995 as LNIPE. It trains PE teachers, conducts research and now helps run national schemes such as Khelo India master-trainer programmes.

111.1 Explain the development of PE in India after independence.

Ans. Timeline and threads on p. 3.

1.3 Changing trends

1.1 A natural playing surface: a. cinder b. astroturf c. polygrass d. wood

Ans. a. Cinder

1.3 Technology used for referees' video decisions in football.

Ans. VAR (video assistant referee).

11.1 Technologies used in officiating.

Ans. LED stumps, Hot Spot (infra-red), video replays and VAR, laser foul detection and 3-D laser scoring, Hawk-Eye ball tracking, electronic timing.

11.2 Wearable gear and sports equipment.

Ans. Modern gear serves safety (helmets, guards), performance (swimsuits, shoes), monitoring (GPS, sensors) and aesthetics (activity wear).

II.3 Advantages of technology in sports.

Ans. Accurate, fair decisions; precise timing; performance and technique analysis; injury prevention through better equipment; training load monitoring; crowd management; better viewing for spectators.

III.1 Classify the playing surfaces.

Ans. Outdoor: tracks (clay and cinder, synthetic), turf (grass and clay; synthetic polygrass, astroturf), MUGA. Indoor: courts (wooden, synthetic), MUGA. Details on p. 4.

1.4 Courses and careers

I.1 After M.P.Ed. you can teach classes: i. I–VIII ii. I–V iii. VI–VIII iv. XI–XII

Ans. iv. XI to XII

I.2 Which course is not recognised by NCTE? i. D.P.Ed. ii. B.P.Ed. iii. M.P.Ed. iv. B.P.E.S.

Ans. iv. B.P.E.S.

II.1 Full form of NCTE.

Ans. National Council for Teacher Education.

II.2 Skills besides a degree for non-teaching careers.

Ans. Communication and presentation, leadership and management, organising events, computer and data skills, marketing, first aid, specialised certification (coaching, fitness, yoga), languages for media.

III.1 PE academic courses in India.

Ans. NCTE courses (D.P.Ed., B.P.Ed., M.P.Ed.), research degrees, PG diplomas, bachelor and master degrees (p. 5).

III.2 Career options after a professional PE course.

Ans. Table on p. 5 (any eight with a line each).

1.5 Khelo India

I.1–I.4 Number of verticals; launch year; years of Rs 5 lakh assistance; Sports for Peace and Development state.

Ans. 1. III. Twelve 2. iv. 2017–2018 3. III. 8 years 4. I. Jammu and Kashmir

II.1–II.3 What is Khelo India; its philosophy; vision and mission.

Ans. p. 6: a national programme (2017–18) for mass participation and excellence; philosophy: sports for all as a tool of development; vision and mission as stated.

II.4 Plan under "Promotion of Sports among Persons with Disabilities".

Ans. Financial help to states, UTs and SAI for specialised sports infrastructure, classification of players, equipment, training and team preparation for the Paralympics, through SAI and the Paralympic Committee of India.

III.1 Need of sports competitions in school.

Ans. They spot and develop talent; motivate practice; build fitness, discipline, teamwork and leadership; teach handling success and failure; give students a goal; select teams for higher levels (CBSE, SGFI, Khelo India); and create a sports culture.

III.2 Will professional sports leagues transform Indian sporting culture?

Ans. Yes, largely: leagues such as IPL, Pro Kabaddi, ISL and Hockey India League give exposure, earnings and careers to players, bring foreign coaches and better facilities, revive sports like kabaddi, attract sponsors and media, and inspire children. Limits: focus on a few sports and cities; grassroots development is still needed.

III.3 Will "Sports for Peace and Development" help restore peace in J&K?

Ans. It can: sport gives youth a positive outlet, jobs and recognition, builds trust between communities and the state, and keeps youth away from violence; village competitions, coaching and infrastructure create opportunities. Success also needs education, employment and security alongside.

IV Table on Khelo India.

Ans. Launched in 2017–18; by the Ministry of Youth Affairs and Sports; vision, mission and aims as on p. 6.

V Case: Rohan's queries. (A) reporting sports events; (B) officiating; (C) teaching primary students; (D) designing sports equipment; (E) sports journalism involves.

Ans. (A) **sports journalism** (PG diploma in sports journalism, Master of Journalism with sports specialisation) (B) an **officiating/referee course** of the sports federation (NIS or federation certification) (C) **D.P.Ed.** (D) **sports technology** (M.Tech. in sports technology, sports equipment design) (E) **reporting, writing and broadcasting sports news, interviews and analysis** for newspapers, TV and digital media.

Important exam questions, fully solved

Exam-style questions in the CBSE 048 pattern (sections A-E), written by us, each with a complete model answer.

A. MCQs and Assertion-Reason (1 mark each)

Exam-style "Physical Education is the sum of those experiences which come to the individual through movement" was said by: (A) Charles A. Bucher (B) J. F. Williams (C) Delbert Oberteuffer (D) J. B. Nash [1]

Ans. This is Oberteuffer's definition, which stresses movement as the medium of experience. (C)

Exam-style The National Institute of Sports was established in 1961 at: (A) Gwalior (B) Patiala (C) Chennai (D) New Delhi [1]

Ans. NIS, Moti Bagh, Patiala, was set up to produce qualified coaches. (B)

Exam-style Which is a synthetic playing surface used mainly for hockey? (A) cinder (B) clay (C) astroturf (D) grass [1]

Ans. Astroturf is even with low friction, so the ball moves fast. (C)

Exam-style Assertion (A): The Fit India Movement was launched on 29 August 2019. Reason (R): 29 August is celebrated as National Sports Day, the birthday of Major Dhyani Chand. [1]

Ans. Both are true, and the date was chosen because it is National Sports Day. (A) Both true, R explains A

Exam-style Under Khelo India talent development, selected athletes get annual assistance of: (A) Rs 1 lakh for 5 years (B) Rs 5 lakh for 8 years (C) Rs 10 lakh for 4 years (D) Rs 2 lakh for 10 years [1]

Ans. (B), in 16 priority sports, based on performance.

B. Very short answer (2 marks)

Exam-style Differentiate between locomotor and non-locomotor movements with two examples each. [2]

Ans. **Locomotor** movements move the body from one place to another: running, hopping (walking, skipping, galloping). **Non-locomotor** movements happen on the spot, without travelling: twisting, stretching (turning, pushing, pulling, swinging).

Exam-style Write any four objectives of the Fit India Movement. [½ × 4 = 2]

Ans. (1) Promote fitness as easy, fun and free. (2) Spread awareness through focused campaigns. (3) Encourage indigenous sports. (4) Take fitness to every school, college, panchayat and village. (Also: a platform to share personal fitness stories.)

Exam-style Write two features of wearable gear used in modern sports. [1 × 2 = 2]

Ans. (1) **Safety:** lighter and stronger helmets, gloves and guards made of advanced materials reduce injuries. (2) **Monitoring:** GPS vests and heart-rate sensors record distance, speed and workload, so coaches can plan training and prevent overtraining. (Also: performance gear such as low-friction swimsuits and aerodynamic shoes; stylish activity wear.)

C. Short answer (3 marks)

Exam-style Explain three technologies used in officiating in modern sports. [1 × 3 = 3]

Ans. (1) **Video Assistant Referee (VAR):** in football, officials review video replays to decide goals, penalties and red cards. (2) **Hot Spot / infra-red imaging:** in cricket it shows a bright mark where the ball touches the bat or pad, settling edges. (3) **Laser technology:** lasers on long- and triple-jump boards detect foul take-offs, and 3-D lasers help score gymnasts objectively. (Also: LED stumps and bails, Hawk-Eye, electronic timing gates.)

Exam-style Explain the three teacher-education courses in Physical Education recognised by NCTE. [3]

Ans. **D.P.Ed.:** prepares PE teachers for the elementary stage, classes I-VIII. **B.P.Ed.:** prepares teachers to teach PE theory in classes VI-X and conduct activities for XI-XII. **M.P.Ed.:** prepares teachers for classes XI-XII and for posts such as assistant professor, director or sports officer in colleges and universities, and teacher educator.

Exam-style Differentiate between natural and synthetic playing surfaces on any three points. [1 × 3 = 3]

Ans.

point	natural (grass, clay, cinder)	synthetic (astroturf, polygrass, MUGA)
maintenance	high: watering, mowing, rolling	low
weather	affected by rain and wind	usable in all weather
cost	cheaper to lay	costly to lay
injury	soft, fewer overuse injuries	harder, risk of skin burns and joint strain

Exam-style What is the Fit India Movement? Write any two of its objectives. [1 + 2 = 3]

Ans. The **Fit India Movement** was launched by Prime Minister Narendra Modi on **29 August 2019** (National Sports Day) to make fitness an integral part of everyday life and to bring a behaviour change towards an active lifestyle. **Objectives:** (1) to promote fitness as **easy, fun and free**; (2) to take fitness to every school, college, panchayat and village through campaigns such as the Fit India Freedom Run and Fit India School certification. (Also: encourage indigenous sports; a platform to share fitness stories.)

D. Case study (4 marks)

Exam-style Kavya, a state-level kho-kho player in class 11, wants a career connected with sport but is not sure she wants to teach. Her coach tells her about many options and also mentions a government scheme that gives selected athletes financial support and training at top academies. (i) Name the scheme. (ii) Kavya enjoys writing match reports. Which career suits her? (iii) Which NCTE course would she need to teach classes I–VIII? (iv) Kho-kho is one of how many priority sports under this scheme? [4]

Ans. (i) **Khelo India** (talent search and development vertical: Rs 5 lakh a year for 8 years). (ii) **Sports journalist** (sports journalism course). (iii) **D.P.Ed.** (iv) **16** priority sports.

Exam-style In a one-day cricket final the umpire gave a batter not out. The fielding side asked for a review: the replay showed a bright white mark on the edge of the bat, and the bails lit up when the ball hit the stumps in the next over. In the football final on the same ground the referee changed a penalty decision after watching a screen at the touchline. (i) Which technology showed the mark on the bat? (ii) Name the stumps whose bails light up. (iii) Which technology did the football referee use? (iv) Give one advantage of such technology. [4]

Ans. (i) **Hot Spot** (infra-red imaging). (ii) **LED stumps and bails** (zing bails). (iii) **VAR**, Video Assistant Referee. (iv) Decisions become **accurate and fair**, reducing human error (also: spectators understand decisions).

Exam-style For visually impaired candidates (in lieu of the case study): Write any four objectives of Physical Education. [4]

Ans. (1) **Physical development:** optimum fitness and health, efficient organ systems. (2) **Neuromuscular coordination:** better control, balance and timing of movement. (3) **Emotional development:** control of anger and fear, accepting success and failure. (4) **Social development:** cooperation, fair play, loyalty and sportsmanship. (Also: motor skills, character building, citizenship.)

E. Long answer (5 marks)

Exam-style Describe the development of Physical Education in India after independence. [5]

Ans. After 1947 the government took many steps. **Committees:** the Tara Chand Committee (1948) recommended a central institute of PE; the Central Advisory Board of PE and Recreation (1950) advised the government and prepared the National Plan of PE and Recreation (1956); the All India Council of Sports (1954) linked the government and federations. **Institutions:** Lakshmbai College of PE, Gwalior (1957), renamed LNCPE (1973) and made a deemed university, LNIPE (1995); the National Institute of Sports, Patiala (1961) to train coaches; SAI (1984), merged with SNIPES in 1987. **Schemes:** Rajkumari Amrit Kaur's coaching scheme (1953), the National Physical Efficiency Drive (1959), the National Fitness Corps (1965), rural sports tournaments and talent search scholarships (1970-71), women's championships (1975). **Events:** first Asian Games (1951), Asian Games (1982) and Commonwealth Games (2010) in Delhi. **Recent:** Khelo India (2017-18), Fit India (2019) and compulsory Health and PE in CBSE schools (2018-19).

Exam-style What is the Khelo India Programme? Explain any four of its verticals. [1 + 4 = 5]

Ans. **Khelo India**, the National Programme for Development of Sports, was launched in 2017-18 by the Ministry of Youth Affairs and Sports to achieve **mass participation and excellence** in sports and to build a sports culture from the grassroots. **Verticals:** (1) **Play field development:** up to Rs 50 lakh to states for developing and maintaining playfields and open spaces. (2) **Community coaching development:** about 2000 PE teachers trained every year as master trainers by LNIPE and SAI, who train community coaches. (3) **Annual sports competitions:** Khelo India School, Youth and University Games as a platform for talent spotting. (4) **Talent search and development:** talented players in 16 priority sports get Rs 5 lakh a year for 8 years and places in top academies. (Others: state Khelo India centres, infrastructure, support to academies, fitness of school children, sports for women, peace and development, persons with disabilities, rural and indigenous games.)

Exam-style Explain any five career options available after a professional course in Physical Education. [1 × 5 = 5]

Ans. (1) **Physical Education teacher:** with D.P.Ed. (classes I-VIII), B.P.Ed. (VI-X, activities in XI-XII) or M.P.Ed. (XI-XII, colleges); teaches theory and conducts activities. (2) **Professional coach:** after a diploma in sports coaching (NIS Patiala), trains players of schools, clubs, academies, SAI centres and national teams. (3) **Fitness trainer or health club manager:** plans exercise programmes in gyms, clubs and corporate wellness centres. (4) **Sports journalist or commentator:** reports, writes and broadcasts sports news and analysis after a sports journalism course. (5) **Sports event manager or administrator:** with an MBA in sports management, organises leagues, tournaments and club activities. (Also: yoga trainer, sports nutritionist, physiotherapist, referee/umpire, equipment designer, adapted PE teacher, adventure educator.) Besides the degree these careers need communication, leadership, management and computer skills.

Exam-style For visually impaired candidates (in lieu of the above): Define Physical Education and explain its aim. [2 + 3 = 5]

Ans. Definition: "Physical Education is an integral part of the total educational process, which has as its aim the improvement of human performance through the medium of physical activities selected with a view to realising this outcome" (Charles A. Bucher). In short, it is education **through** movement. **Aim:** the optimal and wholesome development of the individual for complete living. According to the National Plan of Physical Education and Recreation, the aim is "to make every child physically, mentally and emotionally fit and also to develop in him such personal and social qualities as will help him to live happily with others and build him up as a good citizen". So PE aims at (i) physical fitness and health, (ii) mental and emotional balance, (iii) social qualities such as cooperation and sportsmanship, and (iv) good citizenship and character.

Quick-reference sheet

topic	remember
Oberteuffer	experiences through movement
Bucher	integral part of total education; improve performance
Williams	activities selected as to kind, conducted as to outcomes
Nash	big muscle activities and related responses
1920	YMCA College, Chennai (H. C. Buck), first in Asia
1948 / 1950 / 1954	Tara Chand Committee / CABPER / All India Council of Sports
1953	coaching scheme, Rajkumari Amrit Kaur
1957 / 1973 / 1995	LCPE Gwalior / LNCPE / LNIPE (deemed university)
1961	NIS Patiala
1984 / 1987	SAI / SNIPEs merged with SAI
NCTE courses	D.P.Ed. (I–VIII), B.P.Ed. (VI–X), M.P.Ed. (XI–XII)
surfaces	natural: cinder, clay, grass; synthetic: astroturf, polygrass, MUGA
officiating tech	VAR, Hot Spot, LED stumps, laser, Hawk-Eye, timing gates
Khelo India	2017–18; MYAS; 12 verticals; 16 priority sports; Rs 5 lakh × 8 yrs
Fit India	29 Aug 2019; fitness easy, fun, free

Case study (practice): the school's new ground. Green Valley School received a grant to build a ground. The principal wants a surface that can host football, hockey and athletics in all weather, needs little maintenance and is safe for juniors. The PE teacher also plans a "fitness week" with a cyclothon and quiz, and wants to register the school for a national fitness certification.

(i) Which multi-sport synthetic area suits the juniors? (ii) Which synthetic surface would be best for hockey? (iii) Under which movement are the cyclothon and school certification held? (iv) Which ministry runs Khelo India? (v) Give one advantage and one disadvantage of synthetic surfaces.

★ **Exam tip:** When asked to "explain" a scheme, give: **who** launched it, **when**, **aim**, and **three** named features.

Practice set: test yourself *Exam-style*

Try every question before looking at the answers on page 16. 53 or more out of 66 means you are ready for the exam.

A. Fill in the blanks (1 mark each)

- Physical Education is also called _____ education.
- The YMCA College of PE was set up in Chennai in _____.
- The coaching scheme of 1953 was started by _____.
- LNIFE is located at _____.
- SAI was established in _____.
- MUGA stands for _____.
- Khelo India has _____ verticals.
- Fit India was launched on _____.

B. True or false? (1 mark each)

- Twisting is a locomotor movement.
- NIS Patiala trains coaches.
- Cinder is a synthetic surface.
- VAR is used in football.
- B.P.E.S. is recognised by NCTE as a teacher course.
- Khelo India was launched by the Ministry of Youth Affairs and Sports.
- Sports for Peace and Development is focused on Jammu and Kashmir.
- Fit India aims to make fitness costly and competitive.

C. Very short answer (1 mark each)

- Write Charles A. Bucher's definition of PE.
- Name the first college of PE in Asia.
- What is the full form of CABPER?
- Name two officiating technologies.
- What is polygrass?
- Name two careers in PE other than teaching.
- Name the two objectives of Khelo India.
- Name four of the 16 priority sports.

D. Short answer I (2 marks each)

- Write the aim of PE according to the National Plan.
- Write two differences between natural and synthetic surfaces.
- Write two functions of SAI.
- State two uses of GPS tracking in sports.
- Write two objectives of PE related to emotional and social development.
- What is the mission of Khelo India?

My score (fill in after checking the answers)

Section	A / 8	B / 8	C / 8	D / 12	E / 15	F / 15	G (bonus)	Total / 66
My marks								

Rough work

E. Short answer II (3 marks each)

1. Explain three objectives of Physical Education.
2. Classify the playing surfaces used in sports.
3. Explain three uses of technology in sports.
4. Explain the growth of LNIPE from 1957 to 1995.
5. Explain three verticals of Khelo India.

F. Long answer (5 marks each)

1. Define Physical Education. Explain its aims and any six objectives.
2. Explain the career options available after a professional course in Physical Education.
3. Explain the changing trends in sports: playing surfaces, wearable gear and technology.

G. HOTS (higher-order thinking)

1. Why is PE now called "movement education"?
2. Can technology reduce the human element of sport? Give your view.
3. How can Khelo India and Fit India support each other?

20 MCQs

1. "Big muscle activities and their related responses" is the definition of:
 - (a) Bucher (b) Williams (c) J. B. Nash (d) Oberteuffer
 2. Hopping and galloping are:
 - (a) locomotor (b) non-locomotor (c) manipulative (d) stability
 3. An objective of PE related to nerves and muscles:
 - (a) social development (b) evaluative skill (c) citizenship (d) neuromuscular coordination
 4. The Tara Chand Committee was formed in:
 - (a) 1950 (b) 1948 (c) 1954 (d) 1961
 5. First Asian Games were held in New Delhi in:
 - (a) 1982 (b) 1951 (c) 1948 (d) 2010
 6. LCPE was established in:
 - (a) 1950 (b) 1973 (c) 1961 (d) 1957
 7. LNIPE became a deemed university in:
 - (a) 1995 (b) 1985 (c) 2005 (d) 1973
 8. SNIPES merged with SAI in:
 - (a) 1984 (b) 1990 (c) 1987 (d) 1995
 9. Rubber particles bound with latex or polyurethane make a:
 - (a) cinder track (b) clay court (c) grass track (d) synthetic track
 10. A surface with high shock absorbency for many activities:
 - (a) cinder (b) MUGA (c) clay (d) concrete
 11. Infra-red imaging to detect edges in cricket:
 - (a) VAR (b) GPS (c) Hot Spot (d) force plate
 12. Ground reaction force is measured with:
 - (a) force plates (b) GPS (c) LED stumps (d) stopwatch
 13. Teachers for classes I–VIII need:
 - (a) M.P.Ed. (b) D.P.Ed. (c) Ph.D. (d) MBA
 14. An event manager of a sports club usually holds:
 - (a) D.P.Ed. (b) B.Sc. (c) MBA in sports management (d) diploma in yoga
 15. Khelo India was approved by the cabinet in:
 - (a) 2015 (b) 2021 (c) 2019 (d) 2017
 16. Khelo India's twin objectives:
 - (a) mass participation and excellence (b) medals and money (c) leagues and media (d) fitness and diet
 17. One-time playfield grant per state under Khelo India:
 - (a) up to Rs 50 lakh (b) Rs 5 lakh (c) Rs 5 crore (d) Rs 1 lakh
 18. Master trainers under community coaching are trained by:
 - (a) BCCI (b) UGC (c) NCTE (d) LNIPE and SAI
 19. Top state in the first Khelo India Youth Games 2018:
 - (a) Maharashtra (b) Haryana (c) Delhi (d) Punjab
 20. Fit India promotes fitness as:
 - (a) costly and hard (b) only for athletes (c) easy, fun and free (d) only in gyms
- 1 (c) · 2 (a) · 3 (d) · 4 (b) · 5 (b) · 6 (d) · 7 (a) · 8 (c) · 9 (d) · 10 (b) · 11 (c) · 12 (a) · 13 (b) · 14 (c) · 15 (d) · 16 (a) · 17 (a) · 18 (d) · 19 (b) · 20 (c)

Assertion–Reason (6)

- (a) Both true, R explains A. (b) Both true, R does not explain A. (c) A true, R false. (d) A false, R true.
1. A: PE develops emotional stability. R: Players learn to accept success and failure gracefully.
 2. A: NIS Patiala was set up in 1961. R: There was no professional coaching programme in India at that time.
 3. A: Astroturf makes hockey faster. R: Astroturf is an even surface with less friction.
 4. A: Cinder tracks are easy to keep even in rain. R: Cinder is a natural surface.
 5. A: Khelo India supports persons with disabilities. R: One vertical promotes sports among persons with disabilities.
 6. A: M.P.Ed. holders teach only primary classes. R: M.P.Ed. is recognised by NCTE.

Key: 1 (a) · 2 (a) · 3 (a) · 4 (d) · 5 (a) · 6 (d)

Answers to the practice set

A. 1. movement 2. 1920 3. Rajkumari Amrit Kaur 4. Gwalior 5. 1984 6. multi-utility games area 7. twelve 8. 29 August 2019

B. 1. F 2. T 3. F 4. T 5. F 6. T 7. T 8. F

C. 1. "an integral part of the total educational process ... aim: improvement of human performance through physical activities selected for that outcome" 2. YMCA College of PE, Chennai 3. Central Advisory Board of Physical Education and Recreation 4. VAR, Hot Spot (LED stumps, laser, Hawk-Eye) 5. a synthetic grass-like surface, durable and low-maintenance, used for football 6. coach, sports journalist (fitness trainer, yoga trainer, event manager) 7. mass participation and promotion of excellence 8. archery, athletics, hockey, kabaddi (any four of 16)

D. 1. to make every child physically, mentally and emotionally fit and develop personal and social qualities to live happily with others as a good citizen 2. natural: soft, cheap to build, hard to maintain, weather-affected; synthetic: even, durable, low maintenance, all-weather 3. maintain sports infrastructure; promote sports and excellence (coaching, talent) 4. track players' movement and workload; manage crowds 5. emotional: stability, control of anger and fear; social: cooperation, fair play, sportsmanship 6. "to encourage sports for all", across gender and age, for holistic development, social integration, healthy lifestyle, national pride and economic opportunities

E. 1. p. 2 2. p. 4 3. p. 4 4. p. 3 5. p. 6

F. 1. p. 2 2. p. 5 3. p. 4

G. 1. because it uses movement as the medium for all-round education, letting learners explore and solve movement problems, not just do drills 2. technology improves fairness and accuracy, but it slows the game and reduces officials' judgement; it should support, not replace, human officials 3. Fit India builds a fit population (base of the pyramid) from which Khelo India finds talent; Khelo India's competitions and facilities motivate people to stay fit

Case. (i) MUGA (multi-utility games area) (ii) astroturf (iii) Fit India Movement (iv) Ministry of Youth Affairs and Sports (v) advantage: all-weather, even, low maintenance; disadvantage: costly, hotter, higher risk of skin burns and some joint strain

Last-night summary

- PE = education through movement; definitions of Oberteuffer, Bucher, Williams, Nash; aim of all-round development; 16 objectives.
- India: Tara Chand 1948, CABPER 1950, Asian Games 1951, coaching scheme 1953, AICS 1954, National Plan 1956, LCPE 1957, NIS 1961, SAI 1984, LNIPE 1995, CBSE PE compulsory 2018.
- Trends: natural (cinder, clay, grass) and synthetic (track, polygrass, astroturf, MUGA) surfaces; gear for safety, performance, monitoring, aesthetics; VAR, Hot Spot, laser, timing, GPS, force plates.
- Courses: D.P.Ed., B.P.Ed., M.P.Ed. (NCTE); many careers: coach, trainer, journalist, manager, therapist, designer.
- Khelo India 2017-18: participation + excellence, 12 verticals, 16 priority sports, Rs 5 lakh × 8 years. Fit India 29 Aug 2019.