



Series EF1GH



SET~4

प्रश्न-पत्र कोड
Q.P. Code **75**

रोल नं.
Roll No.

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परीक्षार्थी प्रश्न-पत्र कोड को उत्तर-पुस्तिका के मुख-पृष्ठ पर अवश्य लिखें।

Candidates must write the Q.P. Code on the title page of the answer-book.

शारीरिक शिक्षा (सैद्धान्तिक)

PHYSICAL EDUCATION (Theory)

निर्धारित समय : 3 घण्टे

अधिकतम अंक : 70

Time allowed : 3 hours

Maximum Marks : 70

नोट / NOTE :

- कृपया जाँच कर लें कि इस प्रश्न-पत्र में मुद्रित पृष्ठ 15 हैं।
Please check that this question paper contains 15 printed pages.
- प्रश्न-पत्र में दाहिने हाथ की ओर दिए गए प्रश्न-पत्र कोड को परीक्षार्थी उत्तर-पुस्तिका के मुख-पृष्ठ पर लिखें।
Q.P. Code given on the right hand side of the question paper should be written on the title page of the answer-book by the candidate.
- कृपया जाँच कर लें कि इस प्रश्न-पत्र में 37 प्रश्न हैं।
Please check that this question paper contains 37 questions.
- कृपया प्रश्न का उत्तर लिखना शुरू करने से पहले, उत्तर-पुस्तिका में प्रश्न का क्रमांक अवश्य लिखें।
Please write down the serial number of the question in the answer-book before attempting it.
- इस प्रश्न-पत्र को पढ़ने के लिए 15 मिनट का समय दिया गया है। प्रश्न-पत्र का वितरण पूर्वाह्न में 10.15 बजे किया जाएगा। 10.15 बजे से 10.30 बजे तक परीक्षार्थी केवल प्रश्न-पत्र को पढ़ेंगे और इस अवधि के दौरान वे उत्तर-पुस्तिका पर कोई उत्तर नहीं लिखेंगे।

15 minute time has been allotted to read this question paper. The question paper will be distributed at 10.15 a.m. From 10.15 a.m. to 10.30 a.m., the candidates will read the question paper only and will not write any answer on the answer-book during this period.



75

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P.T.O.





सामान्य निर्देश :

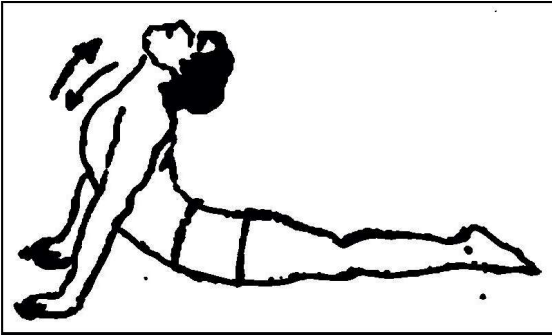
- (i) प्रश्न-पत्र में पाँच खण्ड हैं तथा 37 प्रश्न हैं।
- (ii) खण्ड-अ में प्रत्येक 1 अंक वाले 1-18 बहुविकल्पी प्रश्न हैं। सभी प्रश्न अनिवार्य हैं।
- (iii) खण्ड-ब में 19-24 तक अति लघु-उत्तरीय प्रकार के प्रश्न हैं, जिसमें से 5 प्रश्न करने हैं। प्रत्येक प्रश्न 2 अंक का है और 60-90 शब्दों में होना चाहिए।
- (iv) खण्ड-स में 25-30 तक लघु-उत्तरीय प्रकार के प्रश्न हैं, जिसमें से 5 प्रश्न करने हैं। प्रत्येक प्रश्न 3 अंक का है और 100-150 शब्दों में होना चाहिए।
- (v) खण्ड-द में 31-33 प्रकरण अध्ययन प्रश्न हैं। प्रत्येक प्रश्न 4 अंक का है। आन्तरिक विकल्प उपलब्ध है।
- (vi) खण्ड-य में 34-37 दीर्घ-उत्तरीय प्रश्न हैं, जिसमें से 3 प्रश्न करने हैं। प्रत्येक प्रश्न 5 अंक का है और 200-300 शब्दों से अधिक नहीं होना चाहिए।

खण्ड – अ

(सभी प्रश्न अनिवार्य हैं)

1. आसन की पहचान करें :

1



- | | |
|--------------|-------------|
| (a) भुजंगासन | (b) हलासन |
| (c) वज्रासन | (d) धनुरासन |

(दृष्टिबाधित छात्रों के लिए प्रश्न)

_____ की मुद्रा कोबरा के समान है।

- | | |
|--------------|-------------------------|
| (a) भुजंगासन | (b) धनुरासन |
| (c) वज्रासन | (d) अर्धमत्स्येन्द्रासन |





General Instructions :

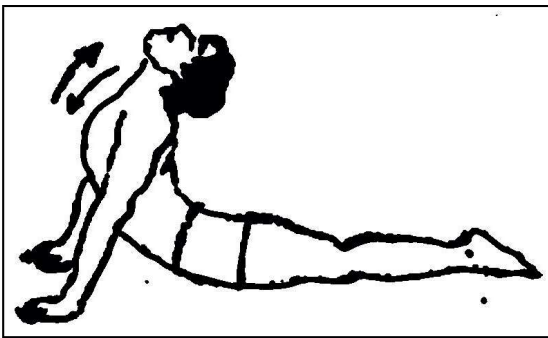
- (i) *The question paper consists of 5 sections and 37 questions.*
- (ii) *Section-A consists of question 1-18 carrying 1 mark each and is multiple choice questions. All questions are compulsory.*
- (iii) *Section-B consists of question 19-24 carrying 2 marks each and are Very Short Answer Types and should not exceed 60-90 words. Attempt any 5.*
- (iv) *Section-C consists of question 25-30 carrying 3 marks each and are Short Answer Types and should not exceed 100-150 words. Attempt any 5.*
- (v) *Section-D consists of question 31-33 carrying 4 marks each and are case studies. There is internal choice available.*
- (vi) *Section-E consists of question 34-37 carrying 5 marks each and are Long Answer types and should not exceed 200-300 words. Attempt any 3.*

SECTION – A

(All Questions are compulsory)

1. Identify the Asana :

1



- (a) Bhujangasana
- (b) Halasana
- (c) Vajrasana
- (d) Dhanurasana

(Question for Visually Impaired candidates)

_____ pose is like cobra.

- (a) Bhujangasana
- (b) Dhanurasana
- (c) Vajrasana
- (d) Ardhamatsyendrasana





2. उदासी, भावनात्मक अस्थिरता और मनोदशा का बदलना जैसे लक्षण _____ से संबंधित हैं। 1
(a) बहिर्मुखता (b) सहमतता
(c) कर्तव्यनिष्ठता (d) मनोविक्षुब्धता
3. निम्न में से कौन सा, प्रक्षेप्य पथ को प्रभावित करने वाला कारक नहीं है ? 1
(a) गुरुत्वाकर्षण (b) फेंकने का कोण
(c) उत्प्लावक बल (d) वायु-प्रतिरोध
4. निम्नलिखित में से कौन सा लोच निर्धारित करने वाला कारक नहीं है ? 1
(a) जोड़ों की संरचना (b) पिछली चोट
(c) फेफड़ों की क्षमता (d) आयु व लिंग
5. फार्टलेक ट्रेनिंग का प्रयोग _____ को विकसित करने के लिए किया जाता है। 1
(a) सहन-क्षमता (b) शक्ति
(c) लचक (d) गति
6. जूडो और कुश्ती जैसे खेलों में किस प्रकार की समन्वय-योग्यता की आवश्यकता होती है ? 1
(a) अनुस्थापन योग्यता (b) युग्मन योग्यता
(c) अनुकूलन योग्यता (d) विभेदन योग्यता
7. _____ की उच्च सांद्रता को सहन करने की योग्यता, सहनक्षमता प्रदर्शन में सुधार करने में मदद कर सकती है। 1
(a) लैक्टिक अम्ल (b) हाइड्रोक्लोरिक अम्ल
(c) सिरका (ऐसीटिक) अम्ल (d) गंधक अम्ल
8. गुरुत्व केंद्र, किसी वस्तु के _____ की औसत स्थिति होती है। 1
(a) भार (b) बल
(c) प्रतिरोध (d) वेग





2. Traits like sadness, mood swings and emotional instability are related with _____. 1
- (a) Extroversion (b) Agreeableness
(c) Conscientiousness (d) Neuroticism
3. Which of the following is NOT the factor affecting projectile trajectory ? 1
- (a) Gravity (b) Angle of Release
(c) Buoyant Force (d) Air Resistance
4. Which of the following factors, does NOT determine flexibility ? 1
- (a) Joint Structure (b) Previous Injury
(c) Efficiency of Lungs (d) Age and Gender
5. Fartlek Training is used to develop _____. 1
- (a) Endurance (b) Strength
(c) Flexibility (d) Speed
6. Which type of coordinative ability is required in games like judo and wrestling ? 1
- (a) Orientation ability (b) Coupling ability
(c) Adaptation ability (d) Differentiation ability
7. The ability to tolerate higher concentration of _____ can help in improving endurance performance. 1
- (a) Lactic acid (b) Hydrochloric acid
(c) Acetic acid (d) Sulphuric acid
8. Centre of Gravity is the average location of an object's _____. 1
- (a) Weight (b) Force
(c) Resistance (d) Velocity





9. नीचे दो कथनों को अभिकथन (A) और कारण (R) नाम दिया गया है। 1
अभिकथन (A) : आक्रामकता मानव व्यवहार का हिस्सा है और एक व्यक्ति के लिए जीने और उच्च उपलब्धियों के लिए संघर्ष करने के लिए आवश्यक है।
कारण (R) : आक्रामकता खेल गतिविधियों में अपरिहार्य और अविभाज्य है।
उपरोक्त दो कथनों के संदर्भ में, निम्नलिखित में से कौन सा एक सही है ?
(a) दोनों (A) और (R) सत्य हैं, और (R), (A) की सही व्याख्या है।
(b) दोनों (A) और (R) सत्य हैं, लेकिन (R), (A) की सही व्याख्या नहीं है।
(c) (A) सत्य है, लेकिन (R) असत्य है।
(d) (A) असत्य है, लेकिन (R) सत्य है।
10. मानव शरीर में जल की भूमिका _____ है। 1
(a) शरीर के तापमान को नियंत्रित करना (b) ऊर्जा देना
(c) कोशिका की मरम्मत करना (d) बीमारी से बचाव
11. निम्नलिखित में से कौन से जल में घुलनशील विटामिन हैं ? 1
(a) विटामिन 'डी' और 'के' (b) विटामिन 'बी' और 'सी'
(c) विटामिन 'ए' और 'ई' (d) विटामिन 'ए' और 'सी'
12. निम्नलिखित में से कौन सा आसन, दमा को ठीक करने के लिए प्रयोग नहीं किया जाता है ? 1
(a) ताड़ासन (b) धनुरासन
(c) पर्वतासन (d) भुजंगासन
13. 19 टीमों के नॉक-आउट फिक्स्चर में कुल कितने मैच खेले जाएँगे ? 1
(a) 18 (b) 17
(c) 20 (d) 16
14. नॉक-आउट टूर्नामेंट को निम्नलिखित नाम से भी जाना जाता है - 1
(a) एलिमिनेशन टूर्नामेंट (b) राउंड-रॉबिन टूर्नामेंट
(c) लीग टूर्नामेंट (d) चैलेंज टूर्नामेंट





9. Given below are the two statements labelled Assertion (A) and Reason (R). 1
Assertion (A) : Aggression is part of human behaviour and is necessary for an individual to live and struggle for higher achievements.
Reason (R) : Aggression is inevitable and inseparable in sport activities.
In the context of the above two statements, which one of the following is correct ?
- (a) Both (A) and (R) are true and (R) is the correct explanation of (A).
(b) Both (A) and (R) are true, but (R) is not the correct explanation of (A).
(c) (A) is true, but (R) is false.
(d) (A) is false, but (R) is true.
10. Role of water in human body is to _____ 1
(a) regulate body temperature (b) give energy
(c) repair cell (d) protect from disease
11. Which of the following are water soluble vitamins ? 1
(a) Vitamin D & K (b) Vitamin B & C
(c) Vitamin A & E (d) Vitamin A & C
12. Which of the following asana is NOT used to cure Asthma ? 1
(a) Tadasana (b) Dhanurasana
(c) Parvatasana (d) Bhujangasana
13. How many total matches will be played in a knock-out fixture of 19 teams ? 1
(a) 18 (b) 17
(c) 20 (d) 16
14. Knock-out tournament is also known as _____. 1
(a) Elimination tournament (b) Round-robin tournament
(c) League tournament (d) Challenge tournament





15. प्रथम डेफलिम्पिक खेलों का आयोजन वर्ष _____ में किया गया था । 1
- (a) 1896 (b) 1960
(c) 1924 (d) 1951

16. निम्नलिखित का मिलान कीजिए : 1

सूची - I

सूची - II

- | | |
|------------------------|--|
| I. नॉक नी / जेनु वैलगम | 1. पीठ के वक्र का बढ़ना |
| II. कूबड़ पीछे की ओर | 2. पैरों को मिलाकर खड़े होने पर घुटनों के बीच फासला होना |
| III. कूबड़ आगे की ओर | 3. सामान्य खड़े होने की स्थिति में घुटनों का आपस में स्पर्श होना । |
| IV. धनुषाकार टाँगे | 4. रीढ़ की हड्डी की अंतरस्थ वक्रता |

निम्न में से सही विकल्प का चुनाव कीजिए :

	I	II	III	IV
(a)	3	1	4	2
(b)	1	3	4	2
(c)	4	2	1	3
(d)	2	3	4	1

17. निम्नलिखित का मिलान कीजिए : 1

सूची - I

सूची - II

- | | |
|-----------------------|---|
| I. प्लेट टैपिंग टेस्ट | 1. लड़कों की ऊपरी शरीर की शक्ति-सहनक्षमता |
| II. पुश-अप | 2. अंगों के कार्य करने की गति व समन्वय |
| III. आंशिक कर्ल अप | 3. लड़कियों की ऊपरी शरीर की शक्ति-सहनक्षमता |
| IV. संशोधित पुश अप | 4. पेट की शक्ति |

निम्न में से सही विकल्प का चुनाव कीजिए :

	I	II	III	IV
(a)	2	1	4	3
(b)	2	3	1	4
(c)	1	3	2	4
(d)	2	3	4	1

18. मेनार्की का संबंध _____ से है । 1

- (a) महिलाओं में मासिक धर्म की समाप्ति (b) महिलाओं में मासिक धर्म की शुरुआत
(c) गर्भावस्था का समय (d) मेरुदण्ड विकार





15. First Deaflympic Games was organized in the year _____. 1
- (a) 1896 (b) 1960
(c) 1924 (d) 1951

16. Match the following : 1

List – I

- I. Knock Knee /
Genu Valgum
II. Kyphosis
III. Lordosis
IV. Bow legs

List – II

1. Increase exaggeration of backward curve
2. Wide gap between the knees when
standing with feet together
3. Knees touch each other in normal
standing position.
4. Inward curvature of the spine

Choose the correct option from the following :

	I	II	III	IV
(a)	3	1	4	2
(b)	1	3	4	2
(c)	4	2	1	3
(d)	2	3	4	1

17. Match the following : 1

List – I

- I. Plate Tapping Test
II. Push-up
III. Partial Curl up
IV. Modified push up

List – II

1. Upper body strength endurance of boys
2. Speed and coordination of limb movement
3. Upper body strength endurance of girls
4. Abdominal strength

Choose the correct option from the following :

	I	II	III	IV
(a)	2	1	4	3
(b)	2	3	1	4
(c)	1	3	2	4
(d)	2	3	4	1

18. Menarche is related to : 1

- (a) Ending of menstrual period in women
(b) Beginning of menstrual period in women
(c) Time of pregnancy
(d) Spinal deformity





खण्ड – ब
(किन्हीं पाँच प्रश्नों के उत्तर दें)

19. सहनक्षमता को निर्धारित करने वाले किन्हीं दो कारकों का संक्षिप्त वर्णन करें । 1+1
20. “लक्ष्य निर्धारण” से आप क्या समझते हैं ? 2
21. लोच को परिभाषित कीजिए और इसके प्रकारों की सूची बनाइये । 1+1
22. अस्थिभंग के किन्हीं चार प्रकारों को स्पष्ट कीजिए । 2
23. बी.एम.आई. क्या है ? एक बालक की बी.एम.आई. की गणना कीजिए जिसका वजन 72 किलो और लम्बाई 1.68 मीटर है । 1+1
24. बृहत् व सूक्ष्म पोषक तत्वों के बीच अंतर स्पष्ट कीजिए । 2

खण्ड – स
(किन्हीं पाँच प्रश्नों के उत्तर दें)

25. “शारीरिक गतिविधियों में भागीदारी विशेष आवश्यकता वाले बच्चों के लिए लाभदायक है ।” किन्हीं छः लाभों का संक्षिप्त विवरण दीजिए । 3
26. विटामिन ‘डी’ एवं विटामिन ‘के’ के कार्यों को लिखिए और उनके स्रोतों का उल्लेख कीजिए । 1.5+1.5
27. किसी खेल कार्यक्रम के आयोजन में निर्देशन व नियंत्रण के कार्यों का संक्षिप्त वर्णन कीजिए । 1.5+1.5
28. हम आत्म-चर्चा और आत्म-सम्मान की मदद से खेल प्रदर्शन को कैसे बढ़ा सकते हैं ? वर्णन कीजिए । 1.5+1.5
29. व्यायाम के मांसपेशीय-संस्थान पर पड़ने वाले किन्हीं छः प्रभावों को स्पष्ट कीजिए । 3
30. गोल कंधों की विकृति से आपका क्या अभिप्राय है ? गोल कंधों को ठीक करने के लिए किन्हीं चार सुधारात्मक उपायों का सुझाव दीजिए । 1+2





SECTION – B

(Attempt any 5 questions)

19. Briefly explain any two factors determining endurance. 1+1
20. What do you understand by “Goal Setting” ? 2
21. Define Flexibility and list down its types. 1+1
22. Elucidate any four types of fractures. 2
23. What is BMI ? Calculate BMI of a child whose weight is 72 kg and height 1.68 mt. 1+1
24. Differentiate between Macro and Micro Nutrients. 2

SECTION – C

(Attempt any 5 questions)

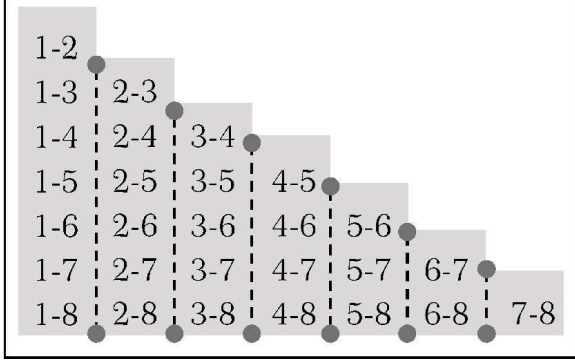
25. “Participation in physical activities is advantageous for children with special need.” Briefly explain any six advantages. 3
26. Write the functions of Vitamin D and Vitamin K and mention their sources. 1.5+1.5
27. Briefly explain the functions of Directing and Controlling to organize sports event. 1.5+1.5
28. How can we enhance the sports performance with the help of self-talk and self-esteem ? Explain. 1.5+1.5
29. Elucidate any six effects of exercise on muscular system. 3
30. What do you understand by Round shoulders deformity ? Suggest any four corrective measures for round shoulders. 1+2





खण्ड – द
(आंतरिक विकल्प उपलब्ध हैं)

31.



उपरोक्त फिक्सचर के आधार पर, निम्न प्रश्नों के उत्तर दीजिए :

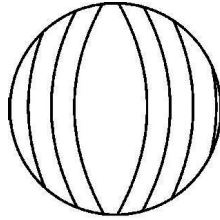
4

- लीग टूर्नामेंट में फिक्सचर बनाने के लिए चित्र में कौन सी विधि दिखाई गई है ?
- मैचों की संख्या ज्ञात करने का सूत्र क्या है ?
- लीग या राउंड-रॉबिन प्रतियोगिता में विजेता का निर्णय _____ के आधार पर होगा ।
- यदि एक लीग प्रतियोगिता में 7 टीमों हिस्सा ले रही हैं, तो खेले जाने वाले मैचों की संख्या ____ होगी ।

(दृष्टिबाधित छात्रों के लिए प्रश्न)

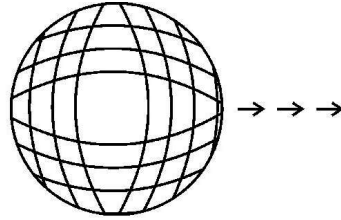
खेल आयोजन के लिए आवश्यक किन्हीं 4 समितियों के उत्तरदायित्वों की व्याख्या कीजिए ।

32. नीचे दिए गए चित्रों का अध्ययन करें :



(A)

स्थिर बॉल



(B)

गतिशील बॉल

उपरोक्त अध्ययन और अपने ज्ञान के आधार पर निम्न प्रश्नों के उत्तर दीजिए :

4

- दर्शाये गए चित्र (A) में गेंद को गतिमान बनाने के लिए, गति के किस नियम का प्रयोग किया जाएगा ?
- चित्र (B) में गेंद को धीमा करने के लिए कौन सा बल कार्य कर रहा है ?
- गति का कौन सा नियम बाउंस की गुणवत्ता को निर्धारित करता है ?
- किसी वस्तु का _____ प्रत्यक्ष रूप से वस्तु के द्रव्यमान तथा उस पर लगाए गए शुद्ध बल पर निर्भर करता है ।

या

“जब क्रिकेट बाल एक निश्चित वेग से चलती है तो खिलाड़ी को गेंद को अपने हाथों में आराम से लाने के लिए मंदक बल लगाना पड़ता है ।” इस उदाहरण में न्यूटन के किस नियम का प्रयोग किया गया है ।

(दृष्टिबाधित छात्रों के लिए प्रश्न)

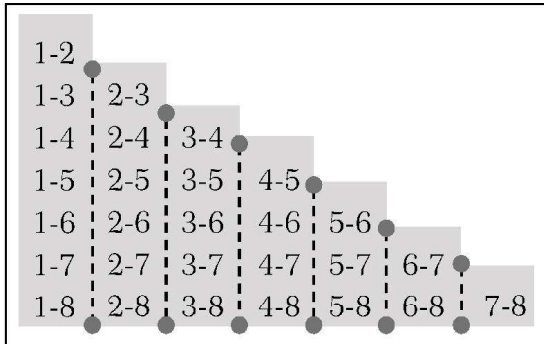
खेलों के उचित उदाहरण देते हुए, न्यूटन के किन्हीं दो गति के नियमों का विस्तृत वर्णन कीजिए ।





SECTION – D
(Internal choices available)

31.



On the basis of above fixture, answer the following questions :

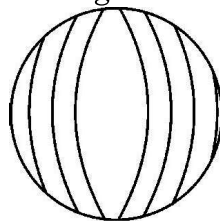
4

- Which method is shown in the picture to draw fixture in league tournament ?
- What is the formula to calculate number of matches ?
- In league or Round Robin Tournament winner will be decided on the basis of _____.
- If 7 teams participate in a league Tournament, _____ number of matches will be played.

(For Visually Impaired Candidates)

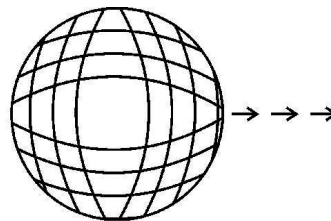
Explain the responsibilities of any four committees required to organize a sports event.

32. Study the pictures given below :



(A)

Stationary Ball



(B)

Moving Ball

Based on your above study and your knowledge, answer the following questions :

4

- Which law of motion will be applied to initiate motion of the ball as depicted in the illustration (A) ?
- In illustration (B) which force is acting upon the ball to slow it down ?
- Which law of motion will determine the quality of bounce ?
- _____ of an object directly depends upon the mass of the object and net force applied on it.

OR

“When a cricket ball is moving with a certain velocity, the player has to apply retarding force to bring the ball at rest in his hands.” Which Newton’s Law is applied in this illustration ?

(For Visually Impaired Candidates)

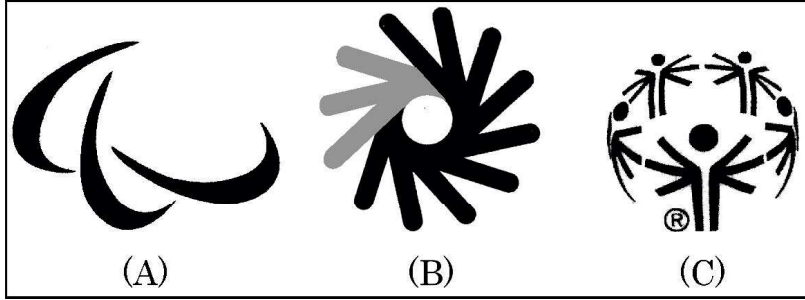
By giving suitable examples from sports, explain any two Newton’s Laws of Motion in detail.





33. चित्र से सम्बन्धित निम्न प्रश्नों के उत्तर दीजिए :

4



- (a) चित्र _____ में दर्शाए गए प्रतीक चिह्न का सम्बन्ध विशेष ओलम्पिक से है ।
(b) विशेष-ओलम्पिक का संस्थापक कौन था ?
(c) चित्र (B) के अनुसार हाथों के 'ओके', 'गुड' और 'ग्रेट' के आकार जो वृत्त में एक-दूसरे पर परस्पर व्याप्त होते हैं, _____ के लिए मूल चिह्न का प्रतिनिधित्व करते हैं ।
(d) रोम में 1960 में प्रथम पैरालंपिक खेलों में कितने देशों ने हिस्सा लिया था ?

या

पैरालंपिक खेलों का आदर्श-वाक्य है _____

(दृष्टिबाधित छात्रों के लिए प्रश्न)

विशेष आवश्यकता वाले बच्चों के लिए शारीरिक गतिविधियों को सुगम बनाने के लिए किन्हीं चार रणनीतियों की व्याख्या कीजिए ।

खण्ड – य

(किन्हीं तीन प्रश्नों के उत्तर दें)

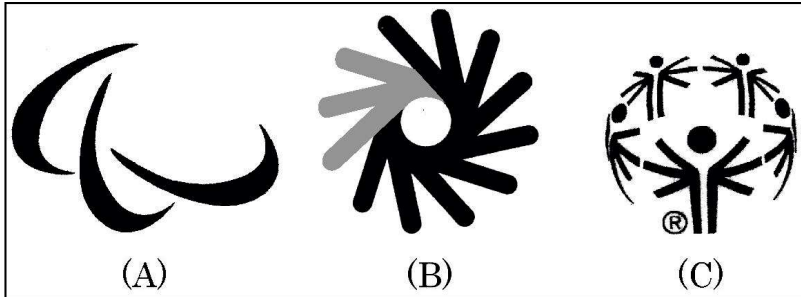
34. उच्च रक्तचाप की रोकथाम के लिए उपयोग किए जाने वाले किन्हीं चार आसनों की सूची बनाइए । छड़ी आरेख की सहायता से इनमें से किसी एक की प्रक्रिया तथा विपरीत संकेतों का वर्णन कीजिए । 1+4
35. 'रिकली एण्ड जोन्स' फिटनेस परीक्षण का क्या उद्देश्य है ? इसकी किन्हीं दो परीक्षण मर्दों की प्रक्रिया का विस्तार से वर्णन करें । 1+4
36. शक्ति को परिभाषित कीजिए तथा उसे विकसित करने की किन्हीं दो विधियों का वर्णन कीजिए । 1+4
37. घर्षण क्या है ? खेलों से उपयुक्त उदाहरण देते हुए घर्षण के लाभ तथा हानियाँ लिखिए । 1+4





33. In relation to the pictures, answer the following questions :

4



- Logo shown in picture _____ refers to Special Olympic.
- Who was the founder of Special Olympics ?
- According to figure 'B', the hand shapes of 'OK', 'Good' and 'Great' that overlap each other in a circle, represent the original sign for _____.
- How many countries participated in the first Paralympic Games in Rome (Italy) in 1960 ?

OR

The moto of Paralympics is _____.

(For Visually Impaired Candidates)

Explain any four strategies to make physical activities accessible for children with special needs.

SECTION – E

(Attempt any 3 questions)

- List down any four asanas used for prevention of Hypertension. Explain the procedure and contraindication of any one of them with help of a stick diagram. 1+4
- What is the purpose of Rikli and Jones fitness test ? Explain the procedure of its any two test items in detail. 1+4
- Define strength and explain any two methods to develop it. 1+4
- What is Friction ? Write the advantages and disadvantages of friction by giving suitable examples from sports. 1+4





Marking Scheme
Strictly Confidential
(For Internal and Restricted use only)
Senior School Certificate Examination,2023
SUBJECT NAME: PHYSICAL EDUCATION (SUBJECT CODE P07548) (PAPER CODE 75)

General Instructions: -

1	You are aware that evaluation is the most important process in the actual and correct assessment of the candidates. A small mistake in evaluation may lead to serious problems which may affect the future of the candidates, education system and teaching profession. To avoid mistakes, it is requested that before starting evaluation, you must read and understand the spot evaluation guidelines carefully.
2	“Evaluation policy is a confidential policy as it is related to the confidentiality of the examinations conducted, Evaluation done and several other aspects. Its’ leakage to public in any manner could lead to derailment of the examination system and affect the life and future of millions of candidates. Sharing this policy/document to anyone, publishing in any magazine and printing in News Paper/Website etc may invite action under various rules of the Board and IPC.”
3	Evaluation is to be done as per instructions provided in the Marking Scheme. It should not be done according to one’s own interpretation or any other consideration. Marking Scheme should be strictly adhered to and religiously followed. However, while evaluating, answers which are based on latest information or knowledge and/or are innovative, they may be assessed for their correctness otherwise and due marks be awarded to them. In class-X, while evaluating two competency-based questions, please try to understand given answer and even if reply is not from marking scheme but correct competency is enumerated by the candidate, due marks should be awarded.
4	The Marking scheme carries only suggested value points for the answers These are in the nature of Guidelines only and do not constitute the complete answer. The students can have their own expression and if the expression is correct, the due marks should be awarded accordingly.
5	The Head-Examiner must go through the first five answer books evaluated by each evaluator on the first day, to ensure that evaluation has been carried out as per the instructions given in the Marking Scheme. If there is any variation, the same should be zero after deliberation and discussion. The remaining answer books meant for evaluation shall be given only after ensuring that there is no significant variation in the marking of individual evaluators.
6	Evaluators will mark(✓) wherever answer is correct. For wrong answer CROSS ‘X” be marked. Evaluators will not put right (✓) while evaluating which gives an impression that answer is correct and no marks are awarded. This is most common mistake which evaluators are committing.
7	If a question has parts, please award marks on the right-hand side for each part. Marks

	awarded for different parts of the question should then be totaled up and written in the left-hand margin and encircled. This may be followed strictly.
8	If a question does not have any parts, marks must be awarded in the left-hand margin and encircled. This may also be followed strictly.
9	If a student has attempted an extra question, answer of the question deserving more marks should be retained and the other answer scored out with a note “ Extra Question ”.
10	No marks to be deducted for the cumulative effect of an error. It should be penalized only once.
11	A full scale of marks _____(example 0 to 80/70/60/50/40/30 marks as given in Question Paper) has to be used. Please do not hesitate to award full marks if the answer deserves it.
12	Every examiner has to necessarily do evaluation work for full working hours i.e., 8 hours every day and evaluate 20 answer books per day in main subjects and 25 answer books per day in other subjects (Details are given in Spot Guidelines). This is in view of the reduced syllabus and number of questions in question paper.
13	Ensure that you do not make the following common types of errors committed by the Examiner in the past:- <ul style="list-style-type: none"> ● Leaving answer or part thereof unassessed in an answer book. ● Giving more marks for an answer than assigned to it. ● Wrong totalling of marks awarded on an answer. ● Wrong transfer of marks from the inside pages of the answer book to the title page. ● Wrong question wise totalling on the title page. ● Wrong totalling of marks of the two columns on the title page. ● Wrong grand total. ● Marks in words and figures not tallying/not same. ● Wrong transfer of marks from the answer book to online award list. ● Answers marked as correct, but marks not awarded. (Ensure that the right tick mark is correctly and clearly indicated. It should merely be a line. Same is with the X for incorrect answer.) ● Half or a part of answer marked correct and the rest as wrong, but no marks awarded.
14	While evaluating the answer books if the answer is found to be totally incorrect, it should be marked as cross (X) and awarded zero (0)Marks.
15	Any un assessed portion, non-carrying over of marks to the title page, or totalling error detected by the candidate shall damage the prestige of all the personnel engaged in the evaluation work as also of the Board. Hence, in order to uphold the prestige of all concerned, it is again reiterated that the instructions be followed meticulously and judiciously.
16	The Examiners should acquaint themselves with the guidelines given in the “ Guidelines for spot Evaluation ” before starting the actual evaluation.
17	Every Examiner shall also ensure that all the answers are evaluated, marks carried over to the title page, correctly totalled and written in figures and words.
18	The candidates are entitled to obtain photocopy of the Answer Book on request on payment of the prescribed processing fee. All Examiners/Additional Head Examiners/Head Examiners are once again reminded that they must ensure that evaluation is carried out strictly as per value points for each answer as given in the Marking Scheme.



General Instructions:

- a. The marking scheme carries only suggested value points for the answers.
- b. These are only Guidelines and do not constitute the complete answer.
- c. The students can have their own expression and if the expression is correct, the marks be awarded accordingly.
- d. The candidates would be permitted to obtain a photocopy of the Answer book on request on payment of the prescribed processing fee. All Examiners/Additional Head Examiners are once again reminded that they must ensure that evaluation that is carried out strictly as per value points for each answer as given in the marking Scheme.
- e. All the Head Examiners/Additional Head Examiners/Examiners are instructed that while evaluating the answer scripts, if the answer is found to be totally incorrect, (X) should be marking on the incorrect answer and awarded '0' marks.

MARKING SCHEME
Senior School Certificate –Examination, 2023
PHYSICAL EDUCATION (Subject Code– 048)
[Paper Code –75]

Maximum Marks: 70

Section-A

Q. No.	EXPECTED ANSWER / VALUE POINTS	Marks
1. Ans.	(a) Bhujangasana For visually impaired (a) Bhujangasana	1
2. Ans.	(d) Neuroticism	1
3. Ans.	(c) Buoyant Force	1
4. Ans.	(c) Efficiency of Lungs.	1
5. Ans.	(a) Endurance	1
6. Ans.	(b) Coupling ability	1
7. Ans.	(a) Lactic acid	1
8. Ans.	(a) Weight	1
9. Ans.	(a) Both (A) and (R) are true and (R) is the correct explanation of (A).	1
10. Ans.	(a) Regulate body temperature	1
11. Ans.	(b) Vitamin B and C	1
12. Ans.	(c) Parvatasana	1
13. Ans.	(a) 18	1
14. Ans.	(a) Elimination tournament	1
15. Ans.	(c) 1924	1
16.	(a) I-3, II-1, III-4, IV-2	1



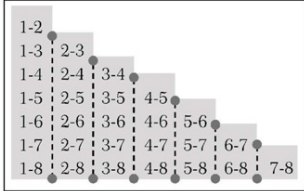
Ans.		
17. Ans.	(a) I-2, II-1, III-4, IV-3	1
18. Ans.	(b) Beginning of menstrual period in women	1
Section-B		
19. Ans.	<p>Briefly explain any two factors determining endurance.</p> <p>Factors determining Endurance:</p> <ol style="list-style-type: none"> 1. Aerobic capacity <ol style="list-style-type: none"> a. Oxygen intake b. Oxygen uptake c. Oxygen transport d. Energy reserve 2. Anaerobic capacity 3. Movement Economy 4. Muscle Composition 5. Lactic acid tolerance <p style="text-align: right;">(Explanation of any two)</p>	1+1
20. Ans.	<p>What do you understand by "Goal Setting"?</p> <p>Goal setting is a mental technique that can be used to increase an individual's commitment towards achieving a specific standard of proficiency on a task within a specified time.</p> <p style="text-align: center;">Or</p> <p>The process of establishing a level of performance proficiency that should be reached within a prescribed time period is known as goal setting.</p> <p style="text-align: right;">(Or any other relevant answer)</p>	2
21. Ans.	<p>Define Flexibility and list down its types.</p> <p>Flexibility is the maximum range of movement of a joint</p> <p>Or</p> <p>Flexibility is the quality of the muscles, ligaments and tendons that enables the joint of the body to move easily through a complete range of movement.</p> <p style="text-align: right;">(Or any relevant definition)</p> <p>There are mainly two types of flexibility</p> <ol style="list-style-type: none"> 1. Active Flexibility- Ability of an individual to do the joint movement without any external help- (a) Static Flexibility (b) Dynamic Flexibility 2. Passive Flexibility- The ability to do joint movement with a greater range with an external help or partner. <p style="text-align: right;">(Only types listed one mark to be given)</p>	1+1
22. Ans.	<p>Elucidate any four types of fractures.</p> <ol style="list-style-type: none"> (a) Green Stick-Incomplete break of soft bones of children. (b) Comminuted- A bone breaks into number of pieces. (c) Transverse- It is a straight break right across a bone. (d) Oblique-A bone breaks diagonally. (e) Impacted-When the broken ends of bones are jammed together by force of injury. <p style="text-align: right;">(Any 4 types)</p>	½ x4



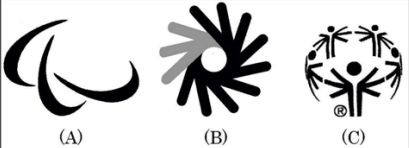
<p>23. Ans.</p>	<p>What is BMI? Calculate BMI of a child whose weight is 72 kg and height 1.68 mts. Body mass index (BMI) is a measure of body fat, based on height and weight of a person. Calculation of BMI if: Weight= 72 kgs. Height= 1.68 mts.</p> $BMI = \frac{Weight (kg)}{[Height(m)]^2}$ $BMI = \frac{72}{1.68 \times 1.68} = 25.51$	<p>1+1</p>		
<p>24. Ans.</p>	<p>Differentiate between Macro and Micro Nutrients.</p> <table border="0" style="width: 100%;"> <tr> <td style="width: 50%; vertical-align: top;"> <p>Macro Nutrients</p> <ol style="list-style-type: none"> 1. Required in large quantity 2. Have calorific value 3. Consist of energy and body building elements 4. Carbohydrates, fats, Protein, water </td> <td style="width: 50%; vertical-align: top;"> <p>Micro Nutrients</p> <ol style="list-style-type: none"> 1. Required in small quantity 2. No calorific value 3. Consist of protecting elements 4. Vitamins and minerals </td> </tr> </table> <p style="text-align: right;">(Any relevant 2 points)</p>	<p>Macro Nutrients</p> <ol style="list-style-type: none"> 1. Required in large quantity 2. Have calorific value 3. Consist of energy and body building elements 4. Carbohydrates, fats, Protein, water 	<p>Micro Nutrients</p> <ol style="list-style-type: none"> 1. Required in small quantity 2. No calorific value 3. Consist of protecting elements 4. Vitamins and minerals 	<p>1+1</p>
<p>Macro Nutrients</p> <ol style="list-style-type: none"> 1. Required in large quantity 2. Have calorific value 3. Consist of energy and body building elements 4. Carbohydrates, fats, Protein, water 	<p>Micro Nutrients</p> <ol style="list-style-type: none"> 1. Required in small quantity 2. No calorific value 3. Consist of protecting elements 4. Vitamins and minerals 			
Section -C				
<p>25. Ans.</p>	<p>“Participation in physical activities is advantageous for children with special need.” Briefly explain any six advantages. Advantages of physical activities For children with special need.</p> <ol style="list-style-type: none"> 1. Physical improvement 2. Mental improvement 3. Increase self esteem 4. Reduce the level of stress, Anxiety and Depression 5. Reduce the risk of health complications. 6. Improved social interaction 7. Improved cognitive skills 8. Improved emotional and psychological health 9. Mode of recreation and fun 10. Channelizing the surplus energy <p style="text-align: right;">(Any 6 relevant points explained)</p>	<p>½ x6</p>		
<p>26. Ans.</p>	<p>Write the functions of Vitamin D and Vitamin K and mention their sources.</p> <p><u>Functions of Vitamin D</u></p> <ol style="list-style-type: none"> 1. It helps in the absorption of calcium and phosphorus 2. It maintains the functions of Parathormone, the hormone secreted by parathyroid glands. 3. It helps to keep the teeth and bones strong <p><u>Sources of Vitamin D</u> Sunrays, milk, fish, liver oil, butter etc.</p> <p><u>Functions of Vitamin K</u></p> <ol style="list-style-type: none"> 1. Helps in blood clotting 2. Enhances bone strength and heart health 3. Helps to facilitate energy production of the mitochondria <p><u>Sources of vitamin K</u> Green leafy vegetables and cabbage; milk etc.</p> <p style="text-align: right;">(Any 2 relevant functions and 1 source for each)</p>	<p>1½+1½</p>		



<p>27. Ans.</p>	<p>Briefly explain the functions of Directing and Controlling to organize sports event.</p> <p><u>Functions of Directing</u></p> <ol style="list-style-type: none"> 1. Directing requires leadership quality 2. Making the employees aware about their duties and responsibilities 3. Includes supervision and motivation 4. Guiding, inspiring and instructing people to accomplish organizational goal. 5. Ensures coordination <p><u>Functions of controlling</u></p> <ol style="list-style-type: none"> 1. Establishing standards 2. Ensure that actual performance is in accordance with the planned performance. 3. Involve imparting instruction to employees to achieve common goal. 4. Help to revise the standard in the light of changing circumstances and environment. <p style="text-align: right;">(Any 3 relevant points for each)</p>	<p>1½+1½</p>
<p>28. Ans.</p>	<p>How can we enhance the sports performance with the help of self-talk and self-esteem? Explain.</p> <p>Self-talk and self-esteem enhance the sports performance by the following ways</p> <p><u>Self-Esteem</u></p> <ol style="list-style-type: none"> 1. It controls the negative thoughts 2. It boosts the self confidence 3. It controls emotion and anxiety 4. It helps in skill acquisition 5. Self esteem helps in decision making 6. Taking up challenges 7. Increase in potential to change oneself 8. Increased self esteem leads to improvement in performance, resulting in successful accomplishment of a goal. <p><u>Self Talk</u></p> <ol style="list-style-type: none"> 1. Creating and changing mood 2. Building and developing self efficacy 3. Controlling efforts 4. Focusing attention or concentration 5. Improve overall performance 6. Giving oneself instructions to carry out a task. 7. Helps to improve stressful situations 8. Helps to substitute “This is too difficult” to “I can do this” <p style="text-align: right;">(Any six relevant points)</p>	<p>- 1½+1½</p>
<p>29. Ans.</p>	<p>Elucidate any six effects of exercise on muscular system.</p> <ol style="list-style-type: none"> 1. Increased muscle temperature 2. Increased blood supply 3. Increased muscle flexibility 4. Hypertrophy of Muscle 5. Increase in Strength of Ligaments and Tendons 6. Increase in Size and Number of Mitochondria 7. Increase in Myoglobin Storage 8. Increase in Glycogen Storage 9. Increase in oxidation/metabolism 10. Increased in Lactic Acid Tolerance 11. Better posture 12. Delayed fatigue <p style="text-align: right;">(Any six relevant points)</p>	<p>½ x6</p>

<p>30.</p> <p>Ans.</p>	<p>What do you understand by Round shoulders deformity? Suggest any four corrective measures for round shoulders.</p> <p><u>Round shoulder</u> Round shoulder is a postural deformity in which shoulders are bent forward from the ideal alignment thereby giving a narrow curve to upper back.</p> <p style="text-align: center;">Or</p> <p>In this postural deformity the shoulders become round and sometimes they seem to be bent forward.</p> <p><u>Corrective measure for round shoulders</u></p> <ol style="list-style-type: none"> 1. Perform chakrasana and dhanurasana 2. Hold the horizontal bar 3. Keep your tips of fingers on your shoulders and rotate your elbows in clockwise and anticlockwise direction. 4. Pull ups 5. Perform bhujangasana and ushttasana 6. Pull the shoulders backward and see upward 7. Chest stretches 8. T stretches 9. Wall stretches 10. Handclasp stretch and planks. <p style="text-align: right;">(Any 4 corrective measures)</p>	<p style="text-align: center;">1</p> <p style="text-align: center;">2</p>
Section D		
<p>31</p> <p>Ans.</p>	<div style="text-align: center;">  </div> <p>On the basis of above fixture, answer the following questions:</p> <ol style="list-style-type: none"> (a) Which method is shown in the picture to draw fixture in league tournament? (b) What is the formula to calculate number of matches? (c) In league or Round Robin Tournament winner will be decided on the basis of (d) If 7 teams participate in a league Tournament, ___ number of matches will be played: <ol style="list-style-type: none"> (a). Staircase method (b). $N \frac{(N-1)}{2}$ (c). Points score by teams/no of matches won/ American method/British method (d). 21 matches <p>(For Visually Impaired Candidates) Explain the responsibilities of any four committees required to organize a sports event</p>	<p style="text-align: center;">1x4</p>

	<p style="text-align: center;">LAYOUT OF ORGANISING COMMITTEE</p> <p style="text-align: center;">(Responsibilities of any four committees)</p>	1x4
<p>32.</p>	<p>Study the pictures given below :</p> <div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;"> <p>(A) Stationary Ball</p> </div> <div style="text-align: center;"> <p>(B) Moving Ball</p> </div> </div> <p>Based on your above study and your knowledge, answer the following questions:</p> <p>(a) Which law of motion will be applied to initiate motion of the ball as depicted in the illustration (A)?</p> <p>(b) In illustration (B) which force is acting upon the ball to slow it down?</p> <p>(c) Which law of motion will determine the quality of bounce?</p> <p>(d) _____ of an object directly depends upon the mass of the object and net force applied on it.</p> <p>OR</p> <p>“When a cricket ball is moving with a certain velocity, the player has to apply retarding force to bring the ball at rest in his hands.” Which Newton’s Law is applied in this illustration?</p> <p>(a) Law of Inertia/Newton’s first law of motion</p> <p>(b) Friction</p> <p>(c) Third law –law of action and reaction</p> <p>(d) Acceleration</p> <p style="text-align: center;">or</p> <p>Newton’s second law of motion/Law of acceleration</p> <p>(For Visually Impaired Candidates)</p> <p>By giving suitable examples from sports, explain any two Newton’s Laws of Motion in detail.</p> <ol style="list-style-type: none"> 1. Newton’s first law 2. Newton’s second law 3. Newton’s third law <p><u>1st law of Motion-Law of Inertia</u>-Any object will remain in the state of rest or motion until or unless an external force is applied it. <u>Example</u>-A football in the state of rest or motion will remain in that position unless a kick is applied on it.</p> <p><u>2nd law of Motion-Law of Acceleration/Momentum</u>-The rate of change of <u>Acceleration</u> directly proportional to the force applied on the object and inversely proportional to the mass of the object. <u>Example</u>-A javelin thrower needs more force to throw a javelin of 800gm than to</p>	1x4
		2+2

	<p>throw a javelin of 600gm.</p> <p><u>3rd Law of Motion-Law of Action/Reaction</u>-For every action there is an equal and opposite reaction.</p> <p><u>Example</u>-While swimming we push the water backwards and our body moves forward.</p> <p style="text-align: right;">(Any two laws with suitable example)</p>	
33.	<p>In relation to the pictures, answer the following questions:</p> <div style="text-align: center;">  <p>(A) (B) (C)</p> </div> <p>(a) Logo shown in picture ___ refers to Special Olympic. (b) Who was the founder of Special Olympics? (c) According to figure 'B', the hand shapes of 'OK', 'Good' and 'Great' that overlap each other in a circle,, represent the original sign for (d) How many countries participated in the first Paralympic Games in Rome (Italy) in 1960?</p> <p>OR</p> <p>The motto of Paralympics is ___</p>	1x4
Ans.	<p>(a) C (b) Eunice Kennedy Shriver (c) Deaf Olympics/Deaflympics (d) 23 or Spirit in motion</p> <p>(For Visually Impaired Candidates)</p> <p>Explain any four strategies to make physical activities accessible for children with special needs.</p>	
Ans.	<p>Strategies to make physical activities accessible for CWSN</p> <ol style="list-style-type: none"> 1. Regular medical check up 2. Adaptive physical education 3. Clear communication 4. Modified playfield/court 5. Modified rules 6. Modification in equipment 7. Involve people with disabilities in decision making 8. Encourage community based programme 9. Use different types of instructional strategies 10. Social strategies 11. Psychological strategies 12. Development of voluntary services at various levels <p style="text-align: right;">(Explanation of any 4 points)</p>	1x4
Section -E		
34.	<p>List down any four asanas used for prevention of Hypertension. Explain the procedure and contraindication of any one of them with help of a stick diagram.</p> <p>Enlist any 4</p>	
Ans.	<ol style="list-style-type: none"> 1. Tadasana 2. Katichakrasana 3. Uttanpadasana 4. ArdhaHalasana 5. Sarala Matyasana 6. Gomukhasana 	¼ x4

- 7. UttanMandukasana
- 8. Vakrasana
- 9. Bhujangasana
- 10. Makarasana
- 11. Shavasana,
- 12. Nadishodhanapranayam
- 13. Sitlipranayam

Draw any one of the following



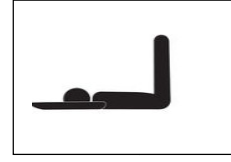
Tadasana



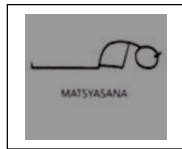
Katichakransan



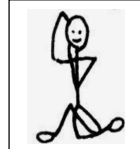
Uttanpadasana



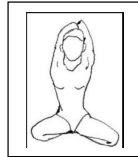
ArdhaHalasana



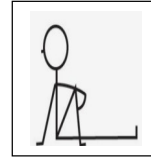
Sarala Matyasana



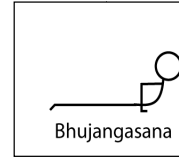
Gomukhasana



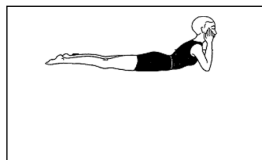
UttanMandukasana



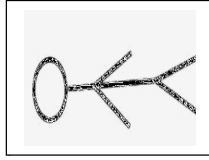
Vakrasana



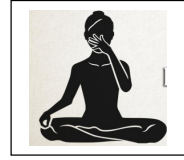
Bhujangasana



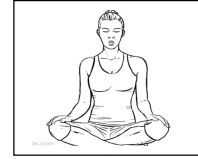
Makarasana



Shavasana



Nadishodhanapranayama



Sitlipranayam

(Explanation of the procedure can be accepted in paragraph /point wise both and it should be relevant to the opted stick diagram.)

Contraindications (any two) should be in relevance to the opted stick diagram)

Procedure of Tadasana (as specimen)

- Stand straight on the floor/ mat.
- Take a small gap between feet.
- After deep inhalation, raise both the arms.
- Keep arms upward by interlocking fingers.
- Come on the toes by raising heels.
- Feel the pressure of stretching from toes.
- Try to maintain this pose along with slow and deep breathing.

Contraindications

- People suffering from headaches, Low blood pressure and insomnia should avoid this asana.
- People suffering from diarrhea, neck and spinal injury should avoid this asana

1

2

1

<p>35.</p> <p>Ans.</p>	<p>What is the purpose of Rikili and Jones fitness test? Explain the procedure of its any two test items in detail.</p> <p>Explanation of Purpose</p> <p>The senior citizen fitness test was developed by Rikli and Jones for the purpose of assessment of fitness of senior citizens. This test battery contains six tests which are designed mainly to assess the lower body strength, upper body strength, lower and upper body flexibility, agility and aerobic endurance.</p> <p style="text-align: center;">(Or)</p> <p>(Marks to be given-If student mention the purpose of six items)</p> <ol style="list-style-type: none"> 1. Chair stand test 2. Arm curl test 3. Chair sit and reach test 4. Back Scratch test 5. Eight foot up and go test 6. Six minute walk test <p>Explain the procedure of any two test items from the above -</p> <p>Chair Stand Test (Procedure as specimen)</p> <p><u>Procedure:</u> The chair should be placed against the wall or somewhere it gets stabilized. Initially, the individual will sit on the chair, back straight, arms crossed and feet firmly on the floor shoulder width apart. On the command "Go" the individual will stand up completely, and then return back to the initial position. This will be counted as one stand. The individual should be motivated to do maximum stands in 30 seconds.</p> <p>Maximum number of complete stands will be counted as score. If the individual is in halfway of the stand and time is over, then it will be counted as a full stand.</p>	<p>1</p> <p>2+2</p>
<p>36.</p> <p>Ans.</p>	<p>Define strength and explain any two methods to develop it.</p> <p>Strength is the ability of a muscle to exert force in single muscle contraction.</p> <p style="text-align: center;">OR</p> <p>Strength is the capacity of the whole body or any of its part to exert force.</p> <p style="text-align: center;">OR</p> <p>Strength is the force that a muscle or group of muscles can exert against a resistance in one maximum effort.</p> <p style="text-align: right;">(Or any other relevant definition)</p> <p>Methods to develop strength:</p> <p>Isometric Exercise: These exercises are not visible as there is no direct movement. Therefore, isometric exercises cannot be observed. In these exercises, work performed cannot be seen directly, like pushing a wall. There is no change in the muscle length when such exercises are done. These exercises need less time and equipment and can be performed practically anywhere and everywhere.</p> <p>Isotonic Exercise: In these exercises movements can be seen directly. Isotonic exercises result in toned muscles and increased muscle length. Examples of isotonic exercises include running and jumping on the spot, weight training exercises, and calisthenics exercises.</p> <p>Isokinetic Exercise: These exercises are performed on specially designed machines. In Isokinetic contraction, the muscles apply maximal force throughout the range of motion around the joint. Example: Brisk Walking on a Treadmill, cycling on an exercise bike etc.</p> <p style="text-align: right;">(Any 2 methods explained)</p>	<p>1</p> <p>2+2</p>

37.	What is Friction? Write the advantages and disadvantages of friction by giving suitable examples from sports.	1
Ans.	<p>Friction is a force acting over the area of contact between two surfaces in the direction opposite to that of motion.</p> <p style="text-align: center;">Or</p> <p>Friction is a force that acts parallel to the two surfaces.</p> <p style="text-align: center;">Or</p> <p>In other words, it is a force that resists the movement.</p> <p style="text-align: center;">Or</p> <p style="text-align: center;">(Similar kind of explanation)</p> <p><u>Advantages:</u></p> <ol style="list-style-type: none"> 1. Running and walking are the result of friction between ground and the shoes. For e.g.: An athlete uses spikes and a footballer uses studs. 2. The grip in badminton and tennis play a major role in performing a perfect shot. That is why a good grip is used for better friction. 3. The friction between the tyres and the surface prevents cyclist from slipping and skidding. Also, a cyclist uses a pointed helmet to reduce friction. 4. Gymnasts and javelin thrower used Magnesium powder to increase friction. <p><u>Disadvantages:</u></p> <ol style="list-style-type: none"> 1. If the air pressure in the cycle tyres is not appropriate, then due to excessive friction, more energy is used. 2. Flight of an object also depends on friction because air resistance slows down the speed of the projectile. 3. During pole-vault, an athlete may lose grip on the pole if less friction is there between palm and pole and may get injured. 4. Friction can cause injuries because a player slides across the ground during play. <p style="text-align: center;">(Any two advantages and disadvantages or relevant answer)</p>	2
		2

