SEF Assisted Schools (SAS)

Existing School Support Program (ESSP)

SEF Middle and High School Program (SMHSP)
Assessment Feb - Mar 2019

Sindh Education Foundation
Government of Sindh

Assessment Unit

Subject	Marks	Time
English	30	60 Minutes
Mathematics	35	60 Minutes
Physics	35	60 Minutes
Total	**100**	**180 Minutes**

INSTRUCTIONS FOR THE STUDENT

Objective Part

شاگرد جي لاءِ هدايتون

معروضي حصو

▪	All questions are compulsory.	سڀ سوال لازمي آهن.	▪
▪	All questions carry equal marks.	سيني سوالن تي هڪ جيتريون مارڪون رکيل آهن.	▪
▪	Do not fill more than one option for one question. Multiple options will be considered wrong.	هڪ سوال جي جواب لاءِ هڪ کان وڌيڪ اختيارن کي نه ڀريو. گھڻن اختيارن واري جواب کي غلط تصور ڪيو ويندو.	▪
▪	Fill correct options according to the following example.	جوابن کي هيٺ ڏنل مثال مطابق چڳيءَ ريت ڀريو.	▪
	Ⓐ 🅑 Ⓒ Ⓓ		
▪	Pencil should be used to fill the answers.	جوابن واري گولڙي کي ڀرڻ لاءِ پينسل جو استعمال ڪريو.	▪
▪	Finish each part in the given time as mentioned in the paper.	پيپر ۾ ڏنل هر هڪ حصي کي ڏنل وقت مطابق حل ڪريو.	▪
▪	Use the given blank page for rough work.	رف ڪم لاءِ ڏنل خالي صفحو استعمال ڪريو.	▪

INSTRUCTIONS FOR THE STUDENT

Subjective Part

شاگرد جي لاءِ هدايتون

موضوعي حصو

▪ All questions are compulsory.	▪ سڀ سوال لازمي آهن.
▪ Finish each question in the given time as mentioned in the paper.	▪ موضوعي حصي ڪي پيپر ۾ ڏنل وقت مطابق حل ڪريو.
▪ Avoid over writing or untidy work.	▪ بتي لکڻي ۽ ڊاھ ڊوھ واري ڪم کان پاسو ڪريو.
▪ Use the given blank page for math's rough work.	▪ رياضيءَ جو رف ڪم ڪرڻ لاءِ ڏنل خالي صفحو استعمال ڪريو.
▪ Pencil should be used to write the answers.	▪ جواب لکڻ لاءِ پينسل جو استعمال ڪريو.

MCQ Practice

1. Name of our country is

.1 اسانجي ملڪ جو نالو آهي

Kenya.	Ⓐ	ڪينيا.	
Pakistan.	Ⓑ	پاڪستان.	
Malaysia.	Ⓒ	ملائيشيا.	
Indonesia.	Ⓓ	اندونيشيا.	

2. Add.

.2 جوڙ ڪريو.

$$2 + 2 = \underline{\hspace{2cm}}.$$

4	Ⓐ
5	Ⓑ
6	Ⓒ
7	Ⓓ

English

1. Complete the following sentence.

I have lived here _____ 2013.

starting	Ⓐ
since	Ⓑ
from	Ⓒ
for	Ⓓ

2. Choose the correct spelling.

musium	Ⓐ
museim	Ⓑ
museum	Ⓒ
muisium	Ⓓ

3. Read the given sentence and identify the adjective.

The night is very rainy.

the   Ⓐ

very   Ⓑ

rainy   Ⓒ

night   Ⓓ

4. King Faisal became the governor of Hijaz at the age of?

Twenty six   Ⓐ

Twenty four   Ⓑ

Twenty one   Ⓒ

Twenty   Ⓓ

5. The synonym of the word "devotees" is

a common man   Ⓐ

follower   Ⓑ

enemies   Ⓒ

friends   Ⓓ

6. Identify the meaning of the word "clasp" in the following lines.

And where the old are young again
I'll clasp my mother's hands

squeeze her hands   Ⓐ

release her hands   Ⓑ

hold her hands   Ⓒ

fold her hands   Ⓓ

7. Read the given sentence and identify the speech.

<div align="center">She said that she is happy.</div>

Interrogative   Ⓐ

Negative   Ⓑ

Indirect   Ⓒ

Direct   Ⓓ

8. The following idiom means

<div align="center">"To break the ice"</div>

to withdraw from an argument   Ⓐ

to go around the topic   Ⓑ

to overcome shyness   Ⓒ

to have a grievance   Ⓓ

9. Complete the given sentence by choosing appropriate word.

The rich man saw the lame begger _____ along the road.

gallop   Ⓐ

claim   Ⓑ

utter   Ⓒ

limp   Ⓓ

10. The opposite of the following word is

Permanent

brief   Ⓐ

passing   Ⓑ

long term   Ⓒ

temporary   Ⓓ

11. The poem "A Nation's Strength" is written by

Robert Louis Stevenson   Ⓐ

Ralph Waldo Emerson   Ⓑ

Louis I. Newman   Ⓒ

Julia Carney   Ⓓ

12. Choose the correct option for the following question.

Necessary quality of good teachers is_____.

thirst for knowledge   Ⓐ

thirst for money   Ⓑ

thirst for status   Ⓒ

thirst for fame   Ⓓ

13. Write an application to your class teacher and ask him/her to arrange a documentary session on the topic "Heat" which you discussed in your last Physics class.

(Marks 05)

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14. Read the following paragraph and answer the given questions.

(Marks 05)

Neil Armstrong

Astronaut Neil Armstrong developed a fascination with flight at an early age and earned his student pilot's license when he was 16. In 1947, Armstrong began his studies in aeronautical engineering at Purdue University. A few years later, Armstrong joined the National Advisory Committee for Aeronautics (NACA). Armstrong joined the astronaut program, and he served as the command pilot for his first mission, Gemini VIII. He and fellow astronaut David Scott were launched into the earth's orbit on March 16, 1966. At 10:56 PM, Armstrong exited the Lunar Module. He said, "That's one small step for man, one big leap for mankind," as he made his famous first step on the moon. For about two and a half hours, Armstrong and Aldrin collected samples and conducted experiments. They also took photographs, including their own footprints. Returning on July 24, 1969, the Apollo 11 craft came down in the Pacific Ocean west of Hawaii. Armstrong received many awards for his efforts, including the Medal of Freedom and the Congressional Space Medal of Honor. In 2005 his authorized biography came out. "First Man: The Life of Neil A. Armstrong" was written by James R. Hansen. Armstrong underwent a heart bypass operation in August 2012. A few weeks later, on August 25, 2012, at the age of 82, Neil Armstrong died in Ohio.

i) What was the profession of Neil Armstrong?

_____

ii) In which university Neil Armstrong started his studies?

_____

iii) What did he say when he landed on moon?

_____

iv) What is the name of biography written on Neil Armstrong?

_____

15. Convert the following sentences into Passive Voice.

(Marks 03)

She is working on her project.

_____

_____

They are watching the movie.

_____

_____

We eat whole pizza in the restaurant.

_____

_____

16. Write an essay of 120 words on "The importance of reading about history".

(Marks 05)

"Rough Work"

Mathematics

17. If Y $= \{a, b\}$ and Z $= \{1\}$ then
Y$\times$ Z = _____ .

17. جيڪڏهن Y $= \{a, b\}$ ۽ Z $= \{1\}$ تہ پوءِ
Y$\times$ Z = _____ .

Ⓐ $\emptyset$

Ⓑ $\{(a, 1)\}$

Ⓒ $\{(b, 1)\}$

Ⓓ $\{(a, 1), (b, 1)\}$

18. If F $= \{x, y\}$ and G $= \{y, z\}$, then
G Δ F = _____ .

18. جيڪڏهن F $= \{x, y\}$ ۽ G $= \{y, z\}$ تہ پوءِ
G Δ F = _____ .

Ⓐ $\{ \}$

Ⓑ $\{y\}$

Ⓒ $\{x, z\}$

Ⓓ $\{x, y, z\}$

19. If $(s-2)(s-7) = 0$, then
  $s =$ _____.

.19 جيڪڏهن $(s-2)(s-7) = 0$، تہ پوءِ
  $s =$ _____

$\{2, 7\}$	Ⓐ
$\{-2, 7\}$	Ⓑ
$\{2, -7\}$	Ⓒ
$\{-2, -7\}$	Ⓓ

20. If $M = \begin{bmatrix} 5 & -1 \\ 2 & -3 \end{bmatrix}$, then
  $Adj.\,M =$ _____.

.20 جيڪڏهن $M = \begin{bmatrix} 5 & -1 \\ 2 & -3 \end{bmatrix}$ تہ پوءِ
  $Adj.\,M =$ _____

$\begin{bmatrix} -3 & 1 \\ -2 & 5 \end{bmatrix}$	Ⓐ
$\begin{bmatrix} 3 & 1 \\ 2 & -5 \end{bmatrix}$	Ⓑ
$\begin{bmatrix} -3 & 2 \\ 1 & -5 \end{bmatrix}$	Ⓒ
$\begin{bmatrix} 5 & -1 \\ -2 & -3 \end{bmatrix}$	Ⓓ

21. When $P = x^3 - 3$, $Q = 3x^2 + 5$ and $R = 7x^2$, then the value of the following would be

21. جڏهن $P = x^3 - 3$، $Q = 3x^2 + 5$ ۽ $R = 7x^2$ تہ پوءِ هيٺئين جو ملهہ ٿيندو

$$P + Q + R$$

$x^3 + 4x^2 - 2$	Ⓐ
$x^3 - 5x^2 - 3$	Ⓑ
$x^3 + 10x^2 + 2$	Ⓒ
$x^3 + 12x^2 + 8$	Ⓓ

22. When $V_i = 0 \; metres/sec$, $t = 5 \; sec$, $a = 4 \; metres/sec^2$, then $V_f =$ _____.

22. جڏهن $V_i = 0$ ميٽر في سيڪنڊ، $t = 5$ سيڪنڊ، $a = 4$ ميٽر في سيڪنڊ اسڪوائر جي تہ پوءِ $V_f =$ _____

$$V_f = V_i + at$$

20 metres /sec	Ⓐ	20 ميٽر في سيڪنڊ
26 metres /sec	Ⓑ	26 ميٽر في سيڪنڊ
32 metres /sec	Ⓒ	32 ميٽر في سيڪنڊ
44 metres /sec	Ⓓ	44 ميٽر في سيڪنڊ

23. Divide.

<div dir="rtl">**23.** وند ڪريو.</div>

$$\frac{\sqrt{16}}{\sqrt{4}} = \underline{\hspace{2cm}} .$$

2   Ⓐ

12   Ⓑ

$\sqrt{12}$ Ⓒ

$\sqrt{20}$ Ⓓ

24. Simplify the following exponential form.

<div dir="rtl">**24.** هيٺ ڏنل سگهه نما ڪي سادي صورت ۾ آڻيو.</div>

$$(8a^{-9}b^6)^{\frac{1}{3}} = \underline{\hspace{2cm}} .$$

$(a^{-6}b^3)$ Ⓐ

$(2a^{-3}b^2)$ Ⓑ

$(3a^{-6}b^3)$ Ⓒ

$(5a^{-3}b^9)$ Ⓓ

25. Identify the factors of the following expression.

<div dir="rtl">

25. هيٺ ڏنل اظهار جي جزن جي سڃاڻپ ڪريو.

</div>

$$a^3 - 64b^3 = \underline{\hspace{3cm}} .$$

$(a - 4b)(a^2 + 4ab + 16b^2)$ Ⓐ

$(a + 4b)(a^2 + 4ab - 16b^2)$ Ⓑ

$(a - 2b)(a^2 + 8ab + 16b^2)$ Ⓒ

$(a + 2b)(a^2 - 8ab + 16b^2)$ Ⓓ

26. The LCM of $2y^2z$ and x^2z^2 would be

<div dir="rtl">

26. $2y^2z$ ۽ x^2z^2 جي ننڍي عام يج اپت تيندي

</div>

$2z$ Ⓐ

$2x^2yz$ Ⓑ

$2xyz^2$ Ⓒ

$2x^2y^2z^2$ Ⓓ

27. The value of "y" in the following logarithmic form would be

<div dir="rtl">27. هيٺ ڏنل لاگرٿم ۾ ''y'' جو ملهه ٿيندو</div>

$$\log_y 27 = 3$$

1   Ⓐ

3   Ⓑ

4   Ⓒ

6   Ⓓ

28. Identify the law of logarithm from the following.

<div dir="rtl">28. هيٺ ڏنل ۾ لاگرٿم جي قانون جي سڃاڻپ ڪريو.</div>

$$\log_a \frac{m}{n} = \underline{\qquad\qquad}.$$

$\log_a m \times \log_a n$ Ⓐ

$\log_a m \div \log_a n$ Ⓑ

$\log_a m + \log_a n$ Ⓒ

$\log_a m - \log_a n$ Ⓓ

29. When A and B are two matrices given in the following, then $A \times B =$ _____ .

<div dir="rtl">

.29 جڏهن هيٺ ڏنل م A ء B ٻ قالب آهن تہ پوءِ
$A \times B =$ _____ .

</div>

$$A = \begin{bmatrix} 2 & 3 \\ 5 & 1 \end{bmatrix}, \ B = \begin{bmatrix} 1 & 2 \\ 1 & 3 \end{bmatrix}$$

Ⓐ $\begin{bmatrix} 3 & 5 \\ 6 & 4 \end{bmatrix}$

Ⓑ $\begin{bmatrix} 2 & 6 \\ 5 & 3 \end{bmatrix}$

Ⓒ $\begin{bmatrix} 5 & 13 \\ 6 & 13 \end{bmatrix}$

Ⓓ $\begin{bmatrix} 1 & 1 \\ 4 & -2 \end{bmatrix}$

30. Following are the heights (in inches) of 10 students in a class, the median of their heights would be

<div dir="rtl">

.30 هيٺ هڪ ڪلاس جي 10 ٻارن جا قدَ (انچن م) ڏنل آهن. انهن جي قدَ جو مڌيان ٿيندو

</div>

$$34, 37, 40, 38, 39, 43, 35, 42, 36, 41$$

Ⓐ 43

Ⓑ 40

Ⓒ 38.5

Ⓓ 35.5

31. If L = {a, b} and M = {c, d}, then show that the following.

31. جيڪڏهن L = {a, b} ۽ M = {c, d}، تہ هيٺ ڏنل کي ثابت ڪريو.

(Marks 04)

$$L \times M \neq M \times L$$

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32. Eliminate *"a"* from the following equations by substitution method. Show steps.

32. هيٺ ڏنل مساواتن ۾ ملهه وجهڻ جي طريقي سان ''a'' کي خارج ڪريو. مرحلا ڏيکاريو.

(Marks 04)

$$x = \frac{3}{4}a, \qquad y = \frac{2}{3}a$$

33. Solve the following equations by using Cramer's rule. Show steps.

33. هيٺ ڏنل مساوات کي ڪريمر جي اصول تحت حل ڪريو. مرحلا ڏيکاريو.

(Marks 04)

$$2x + y = 5,$$
$$x + 2y = 1.$$

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34. If $f \propto \dfrac{1}{g^2}$ and $f = 3$ when $g = 2$, find the value of "f" when $g = 4$. Show steps.

34. جيڪڏهن $f \propto \dfrac{1}{g^2}$ ۽ $f = 3$ جڏهن ته $g = 2$ ته "f" جو ملهه لهو جڏهن ته $g = 4$. مرحلا ڏيکاريو.

(Marks 04)

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35. In the given table, the weights of 50 students in a class is shown. Find the median of their weights. Show steps.

35. هيٺ ڏنل جدول ۾ هڪ ڪلاس جي 50 شاگردن جو وزن (ڪلوگرام ۾) ڏنل آهي. انهن جي وزن جو مڌيان لهو. مرحلا ڏيکاريو.

(Marks 05)

Weight (in kilograms) وزن (ڪلوگرام ۾)	31-35	36-40	41-45	46-50	51-55
Number of students شاگردن جو تعداد	02	08	15	16	09

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Physics

36. The ionized state of matter is called

36. مادي جي آئيني حالت ڇورائيندي آهي

plasma.	Ⓐ	پلازما.
liquid.	Ⓑ	پاڻياٺ.
solid.	Ⓒ	نهرو.
gas.	Ⓓ	گيس.

37. Tensile stress is the stress that changes the objects

37. ٽينسل جو دباءُ اُهو دباءُ آهي جيڪو تبديل ڪري ڇڏيندو آهي ڪنهن به شيءِ

mass.	Ⓐ	جو مايو.
length.	Ⓑ	جي ڊيگھہ.
weight.	Ⓒ	جو وزن.
volume.	Ⓓ	جو مقدار.

38. Due to surface tension the shape of the rain drops are

oval.	Ⓐ	بيضوي.
circular.	Ⓑ	گول.
triangle.	Ⓒ	تِڪنڊي.
spherical.	Ⓓ	گولائي.

38. سطحي چڪ جي ڪري مِينهَن جي ڦُڙن جي شڪل هوندي آهي

39. Archimedes principle is applied to determine

specific resistance.	Ⓐ	مخصوص رڪاوٽ.
specific density.	Ⓑ	مخصوص گهاٽائي.
specific gravity.	Ⓒ	مخصوص ڪشش ثقل.
specific heat.	Ⓓ	مخصوص گرمي.

39. آرڪمڊيز جو اصول لاڳو ٿيندو آهي معلوم ڪرڻ جي لاءِ

40. The process in which heat is transferred from one part of the body to the other by interaction of electron is called

اُهو عمل جنهن ۾ گرمي جسم جي هڪ حصي کان ٻئي حصي ڏانهن اليڪترانن جي ڪري منتقل ٿيندي آهي، اُها آهي

conduction.	Ⓐ	پَسرائٽ.
convection.	Ⓑ	گرمي جي وَهڪ.
expansion.	Ⓒ	وڌاءُ
radiation.	Ⓓ	گرمي جو پکڙجڻ.

41. The branch of physics which is concerned with the properties of highly ionized atoms forming a mixture of bare nuclei and electrons is called

فزڪس جي اُها شاخ جنهن ۾ خالي مرڪزِ اليڪترانن جي ميلاپ ۽ وڌ ڪان وڌ برق پارڻ ۾ ورهايل ائٽمن جوا ايجاس ڪيو وڃي ته ان کي چئبو آهي

mechanics.	Ⓐ	حرڪيات.
plasma physics.	Ⓑ	پلازما فزڪس.
nuclear physics.	Ⓒ	جوهري فزڪس.
electromagnetism.	Ⓓ	برق مقناطيسيت.

42. Find the volume of a rectangular box, the length of which is 2cm, breadth is 2cm and height is 1cm.

42. هڪ مستطيل دٻي جو مقدار معلوم ڪريو جڏهن ان جي ڊيگهه 2 س م، ويڪر 2 ء اوچائي 1 س م هجي.

3 cm^3	Ⓐ
4 cm^3	Ⓑ
5 cm^3	Ⓒ
6 cm^3	Ⓓ

43. Identify the state of equilibrium in the cone as shown below.

43. هيٺ ڏنل مخروطي شڪل جي توازن واري حالت جي سڃاڻپ ڪريو.

unstable equilibrium	Ⓐ	غير پائيدار توازن
dynamic equilibrium	Ⓑ	متحرڪ توازن
neutral equilibrium	Ⓒ	غير جانبدار توازن
stable equilibrium	Ⓓ	پائيدار توازن

44. Ability of a body to do work due to its motion is called

44. ڪنھن بہ جسم جي ڪم ڪرڻ جي صلاحيت ان جي حرکت ڪرڻ جي ڪري ڇورائيندي آھي

heat energy.	Ⓐ	گرمي جي توانائي.
kinetic energy.	Ⓑ	حرڪي توانائي.
potential energy.	Ⓒ	مخفي توانائي.
gravitational energy.	Ⓓ	ڪشش ثقل جي توانائي.

45. The work done by the machine on the weight is called output. If a machine moves a load **W** through a distance **h** then output would be given by the formula.

45. مشين جو وزن تي ڪم ڪرڻ کي حاصل ٿيل ڪم (out put) ڇورائيندو آھي. جيڪڏھن مشين بار W کي ڪنھن مفاصلي تي حرکت ڏئي ٿي تہ حاصل ٿيل ڪم (out put) h جو فارمولو ٿيندو

Output = W /h	Ⓐ
Output = W x h	Ⓑ
Output = h / W	Ⓒ
Output = W x h x h	Ⓓ

46. A perfect machine has efficiency of

46. هڪ بلڪل صحيح مشين جي ڪارڪردگي هميشه رهندي آهي

    70%   Ⓐ

    80%   Ⓑ

    90%   Ⓒ

    100%   Ⓓ

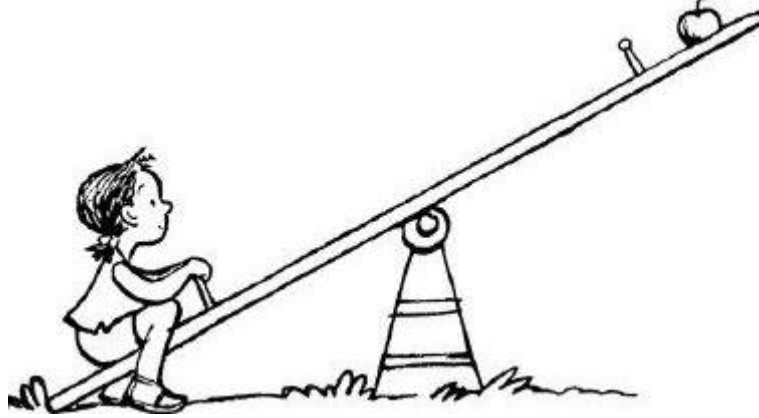**47.** Identify the instrument shown in the diagram given below.

47. هيٺ شڪل ۾ ڏيکاريل اوزار جي سڃاڻپ ڪريو.
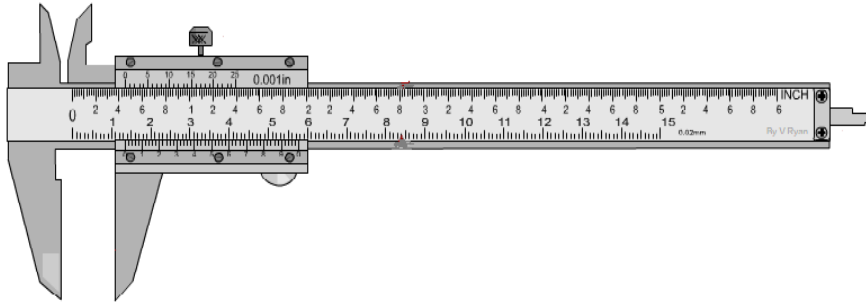
    vernier callipers   Ⓐ   ورنيئر ڪيليپر

    physical balance   Ⓑ   طبعي تارازي

    measuring cylinder   Ⓒ   ميئرنگ سيليندر

    micrometer screw gauge   Ⓓ   مائڪروميٽر اسڪريو گيج

48. Identify the type of lever shown in the picture below.

48. هيٺ ڏيکاريل تصوير ۾ ليور/ بيرم جي قسم جي سڃاڻپ ڪريو.

first kind	Ⓐ	پهرئين قسم جو	
second kind	Ⓑ	ٻئين قسم جو	
third kind	Ⓒ	ٽئين قسم جو	
fourth kind	Ⓓ	چوٿين قسم جو	

49. The force applied on the machine is called

49. مشين تي جيڪا طاقت لڳائي ويندي آهي، اها چورائيندي آهي

fulcrum.	Ⓐ	ٽوٽي/ فلڪرم.	
effort.	Ⓑ	ڪوشش.	
lever.	Ⓒ	ليور/ بيرم.	
load.	Ⓓ	بار.	

50. Answer the following questions.

50. هيٺ ڏنل سوالن جا جواب لکو.

(Marks 05)

i) State Newton's First law of motion and explain it with the help of an example of a book lying on a table.

i) نيوٽن جو حرڪت جو پهريون قانون لکوء ان کي ڪتاب کي ميز تي هئڻ واري مثال وسيلي بيان ڪريو.

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_____

ii) Explain why Newton's first law of motion is also called as the law of inertia?

ii) نيوٽن جو حرڪت جو پهريون قانون اُچلتا/ انرشيا جو قانون به چورائيندو آهي، وضاحت ڪريو ت ڇو؟

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51. A cyclist covers 120 m in 10 seconds. Find the speed of the motor cyclist.

51. هڪ موٽر سائيڪل سوار 120 ميٽر جو مفاصلو 10 سيڪندن ۾ طئي ڪري ٿو، سائيڪل سوار جي رفتار معلوم ڪريو۔

(Marks 03)

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52. Define the following terms.   ‏52. هيٺ ڏنل اصطلاحن جي وصف لکو.

(Marks 04)

Stress   چِڪَ

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Strain   بگاڙ

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_____

Young's Modulus   ينگ جو ماڊيولس

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_____

Elasticity   لچڪ

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53. Explain Torque or moment of force.

.53 زورجي معيارِ اثرجي وضاحت ڪريو.

(Marks 01)

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54. Differentiate between Scalar and vector quantity.

.54 طرفي ۽ بي طرفي مقدار جي وچ ۾ فرق بيان ڪريو.

(Marks 04)

	Scalar طرفي مقدار	Vector بي طرفي مقدار
i)		
ii)		

55. Indicate the position of centre of gravity in the following objects.

55. هيٺ ڏنل شين جي مرڪز ثقل جي سڃاڻپ ڪريو.

(Marks 04)