# 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. | ▪ سڀني 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 نہ پريو. گھٽن اختيارن واري جواب کي غلط تصور ڪيو ويندو. |
| ▪ Fill correct options according to the following example. | ▪ جوابن کي هيٺ ڏنل مثال مطابق چڱيءَ ريت پريو. |
| Ⓐ<br>Ⓑ<br>Ⓒ<br>Ⓓ | |
| ▪ Pencil should be used to fill the answers. | ▪ جوابن واري گولڙي کي پرڻ 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

شاگرد جي لاءِ هدايتون

**Subjective Part**

موضوعي حصو

| | |
|---|---|
| ▪ All questions are compulsory. | ▪ سڀ سوال لازمي آهن. |
| ▪ Finish each question in the given time as mentioned in the paper. | ▪ موضوعي حصي کي پيپر ۾ ڏنل وقت مطابق حل ڪريو. |
| ▪ Avoid over writing or untidy work. | ▪ ٻٽي لکڻي ۽ ڌاهه ڏوهه 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. | ▪ جوابَ 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. | Ⓓ | انڊونيشيا. |

**2.** Add.

2. جوڙ ڪريو.

**2 + 2 = _____.**

| | | |
|---|---|---|
| 4 | Ⓐ | |
| 5 | Ⓑ | |
| 6 | Ⓒ | |
| 7 | Ⓓ | |

## English

**1.** Complete the following sentence.

I have lived here _____ 2013.

| | |
|---|---|
| for | Ⓐ |
| from | Ⓑ |
| since | Ⓒ |
| starting | Ⓓ |

**2.** Choose the correct spelling.

| | |
|---|---|
| reached | Ⓐ |
| recheed | Ⓑ |
| reachad | Ⓒ |
| reeched | Ⓓ |

**3.** Read the given sentence and identify the adjective.

The day is very cloudy.

| | |
|---|---|
| the | Ⓐ |
| day | Ⓑ |
| very | Ⓒ |
| cloudy | Ⓓ |

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

| | |
|---|---|
| Twenty | Ⓐ |
| Twenty one | Ⓑ |
| Twenty four | Ⓒ |
| Twenty Six | Ⓓ |

**5.** The synonym of the word "meadow" is

wicked. Ⓐ

a brief look. Ⓑ

a grassy field. Ⓒ

a common land. Ⓓ

**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

fold her hands Ⓐ

hold her hands Ⓑ

release her hands Ⓒ

squeeze her hands Ⓓ

**7.** Read the given sentence and identify the speech.

He said that he is tired.

Direct Ⓐ

Indirect Ⓑ

Negative Ⓒ

Interrogative Ⓓ

**8.** The following idiom means

"To break the ice"

to have a grievance Ⓐ

to overcome shyness Ⓑ

to go around the topic Ⓒ

to withdraw from an argument Ⓓ

**9.** Complete the given sentence by choosing appropriate word.

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

limp Ⓐ

utter Ⓑ

claim Ⓒ

gallop Ⓓ

**10.** The opposite of the following word is

**Temporary**

brief Ⓐ

passing Ⓑ

permanent Ⓒ

momentary Ⓓ

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

Julia Carney Ⓐ

Louis I. Newman Ⓑ

Ralph Waldo Emerson Ⓒ

Robert Louis Stevenson Ⓓ

**12.** Choose the correct option for the following question.

Necessary quality of good teachers is_____.

thirst for fame Ⓐ

thirst for status Ⓑ

thirst for money Ⓒ

thirst for knowledge Ⓓ

**13.** 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?

_____

**14.** 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)**

**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 $G \Delta F =$ _____ .

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

$\{\ \}$ Ⓐ

$\{y\}$ Ⓑ

$\{x, z\}$ Ⓒ

$\{x, y, z\}$ Ⓓ

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

**19. هيٺ ڏنل لاگرٿم ۾ *"y"* جو ملهه ٿيندو**

$$\log_y 27 = 3$$

1 Ⓐ

3 Ⓑ

4 Ⓒ

6 Ⓓ

**20.** Identify the law of logarithm from the following.

**20. هيٺ ڏنل ۾ لاگرٿم جي قانون جي سڃاڻپ ڪريو.**

$$\log_a \frac{m}{n} = \_\_\_\_\_ .$$

$\log_a m \times \log_a n$ Ⓐ

$\log_a m \div \log_a n$ Ⓑ

$\log_a m + \log_a n$ Ⓒ

$\log_a m - \log_a n$ Ⓓ

**21.** Divide. **.21** **وندڙ ڪريو.**

$$\frac{\sqrt{16}}{\sqrt{4}} = \_\_\_\_\_ .$$

2 Ⓐ

12 Ⓑ

$\sqrt{12}$ Ⓒ

$\sqrt{20}$ Ⓓ

**22.** Simplify the following exponential form. **.22** **هيٺ ڏنل سگهه نما کي سادي صورت ۾ آڻيو.**

$$(8a^{-9}b^{6})^{\frac{1}{3}} = \_\_\_\_\_ .$$

$(a^{-6}b^{3})$ Ⓐ

$(2a^{-3}b^{2})$ Ⓑ

$(3a^{-6}b^{3})$ Ⓒ

$(5a^{-3}b^{9})$ Ⓓ

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

**.23** جڏهن $P = x^3 - 3$، $Q = 3x^2 + 5$ ۽ $R = 7x^2$ ته پوءِ هيٺئين جو ملهه ٿيندو

$$P + Q + R$$

$x^3 + 4x^2 - 2$ Ⓐ

$x^3 - 5x^2 - 3$ Ⓑ

$x^3 + 10x^2 + 2$ Ⓒ

$x^3 + 12x^2 + 8$ Ⓓ

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

**.24** جڏهن $V_i = 0$ ميٽر في سيڪنڊ، $t = 5$ سيڪنڊ، $a = 4$ ميٽر في سيڪنڊ اسڪوائر جي ته $V_f =$ _____ پوءِ

$$\boldsymbol{V_f = V_i + at}$$

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

**25.** Identify the factors of the following expression.

**25.** هيٺ ڏنل اظهار جي جزن جي سڃاڻپ ڪريو.

$$\boldsymbol{a^3 - 64b^3 = \_\_\_\_\_ .}$$

$(a-4b)(a^2+4ab+16b^2)$ Ⓐ

$(a+4b)(a^2+4ab-16b^2)$ Ⓑ

$(a-2b)(a^2+8ab+16b^2)$ Ⓒ

$(a+2b)(a^2-8ab+16b^2)$ Ⓓ

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

**26.** $2y^2z$ ۽ $x^2z^2$ جي ننڍي عام پيڙ اپت ٿيندي

$2z$ Ⓐ

$2x^2yz$ Ⓑ

$2xyz^2$ Ⓒ

$2x^2y^2z^2$ Ⓓ

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

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

Ⓐ $\{2,7\}$

Ⓑ $\{-2,7\}$

Ⓒ $\{2,-7\}$

Ⓓ $\{-2,-7\}$

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

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

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

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

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

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

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

**29.** جڏهن هيٺ ڏنل ۾ $A$ ۽ $B$ به قالب آهن ته پوءِ $A \times B =$_____.

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

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

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

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

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

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

**30.** هيٺ هڪ ڪلاس جي 10 پارن جا قدَ (انچن ۾) ڏنل آهن. انهن جي قدَ جو مڌيان ٿيندو

**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)**

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

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

**32.** جيڪڏهن $f \propto \frac{1}{g^2}$ ۽ $f = 3$ جڏهن تہ $g = 2$ تہ "$f$" جو ملهه لهو جڏهن تہ $g = 4$. مرحلا ڏيکاريو.

**(Marks 04)**

**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)**

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

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

**34.** هيٺ ڏنل مساوات ۾ ملهه وجهڻ جي طريقي سان "*a*" کي خارج ڪريو. مرحلا ڏيکاريو.

**(Marks 04)**

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

**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 |

## Physics

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

**36.** هڪ مستطيل ڊبي جو مقدار معلوم ڪريو جڏهن ان جي ڊيگهه 2 س م، ويڪر 2 ۽ اوچائي 1 س م هجي.

3 $cm^3$ Ⓐ

4 $cm^3$ Ⓑ

5 $cm^3$ Ⓒ

6 $cm^3$ Ⓓ

**37.** Identify the state of equilibrium in the cone as shown below.

**37.** هيٺ ڏنل مخروطي شڪل جي توازن واري حالت جي سڃاڻپ ڪريو.

unstable equilibrium Ⓐ غير پائيدار توازن

dynamic equilibrium Ⓑ متحرڪ توازن

neutral equilibrium Ⓒ غيرجانبدار توازن

stable equilibrium Ⓓ پائيدار توازن

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

**38.** ڪنهن به جسم جي ڪم ڪرڻ جي صلاحيت ان جي حرڪت ڪرڻ جي ڪري ڇوراڻيندي آهي

Ⓐ heat energy. — گرمي جي توانائي.

Ⓑ kinetic energy. — حرڪي توانائي.

Ⓒ potential energy. — مخفي توانائي.

Ⓓ gravitational energy. — ڪشش ثقل جي توانائي.

**39.** 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.

**39.** مشين جو وزن تي ڪم ڪرڻ کي حاصل ٿيل ڪم (out put) ڇوراڻيندو آهي. جيڪڏهن مشين بارَ **W** کي ڪنهن مفاصلي تي حرڪت ڏئي تي ته حاصل ٿيل ڪم (out put) جو فارمولو ٿيندو **h**

Ⓐ Output = W /h

Ⓑ Output = W x h

Ⓒ Output = h / W

Ⓓ Output = W x h x h

**40.** A perfect machine has efficiency of

**40.** هڪ بلڪل صحيح مشين جي ڪارڪردگي هميشہ رهندي آهي

70% Ⓐ

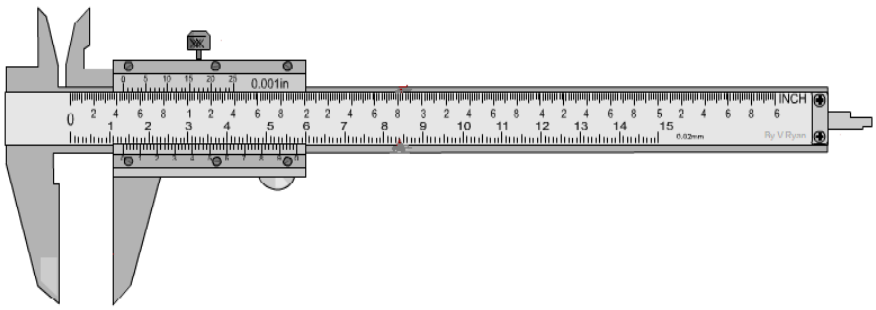
80% Ⓑ

90% Ⓒ

100% Ⓓ

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

**41.** هيٺ شڪل ۾ ڏيکاريل اوزار جي سڃاڻپ ڪريو.




vernier callipers Ⓐ ورنيئر ڪيليپر

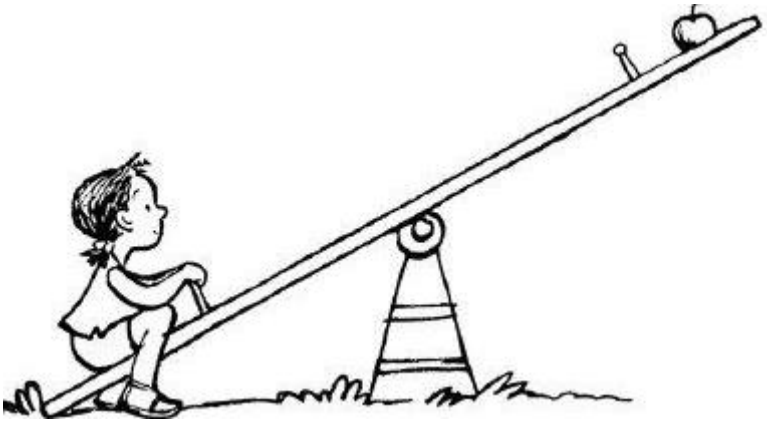
physical balance Ⓑ طبعي تارازي

measuring cylinder Ⓒ ميئرنگ سيلينڈر

micrometer screw gauge Ⓓ مائڪروميٽر اسڪريو گيج

**42.** Identify the type of lever shown in the picture below.

**42.** 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 |

**43.** The force applied on the machine is called

**43.** مشين تي جيڪا طاقت لڳائي ويندي آهي، اُها ڇَورائيندي آهي

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

**44.** The ionized state of matter is called

**44.** مادي جي آئيني حالت ڇورائيندي آهي

plasma. Ⓐ پلازما.

liquid. Ⓑ پاڻيات.

solid. Ⓒ نهرو.

gas. Ⓓ گيس.

**45.** Tensile stress is the stress that changes the objects

**45.** ٽينسل جو دٻاءُ اهو دٻاءُ آهي جيڪو تبديل ڪري ڇڏيندو آهي ڪنهن به شيءِ

mass. Ⓐ جو مايو.

length. Ⓑ جي ڊيگهه.

weight. Ⓒ جو وزن.

volume. Ⓓ جو مقدار.

**46.** Due to surface tension the shape of the rain drops are

**46.** سطحي ڇڪ جي ڪري مِينهَن جي ڦُڙن جي شڪل هوندي آهي

Ⓐ oval. بيضوي.

Ⓑ circular. گول.

Ⓒ triangle. ٽڪنڊي.

Ⓓ spherical. گولائي.

**47.** Archimedes principle is applied to determine

**47.** آرڪميڊيز جو اصول لاڳو ٿيندو آهي معلوم ڪرڻ جي لاءِ

Ⓐ specific resistance. مخصوص رڪاوٽ.

Ⓑ specific density. مخصوص گھاڻائي.

Ⓒ specific gravity. مخصوص ڪشش ثقل.

Ⓓ specific heat. مخصوص گرمي.

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

**48.** اهو عمل جنهن ۾ گرمي جسم جي هڪ حصي کان بئي حصي ڏانهن اليڪٽرانن جي ڪري منتقل ٿيندي آهي، اُها آهي

Ⓐ conduction. پَسرائڻ.

Ⓑ convection. گرمي جي وَهڪ.

Ⓒ expansion. وڌاءُ

Ⓓ radiation. گرمي جو پکڙجڻ.

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

**49.** فزڪس جي اُها شاخ جنهن ۾ خالي مرڪزءِ اليڪٽرانن جي ميلاپ ۽ وڏ ڪان وڏ برق پارن ۾ ورهايل ائٽمن جو اڀياس ڪيو وڃي تہ ان کي چئبو آهي

Ⓐ mechanics. حرڪيات.

Ⓑ plasma physics. پلازما فزڪس.

Ⓒ nuclear physics. جوهري فزڪس.

Ⓓ electromagnetism. برق مقناطيسيت.

**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 لکو ۽ ان کي ڪتاب کي ميز تي هئڻ واري مثال وسيلي بيان ڪريو.

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

**ii)** نيوٽن جو حرڪت جو پهريون قانون اڇلتا/ انرشيا جو قانون به ڇورائيندو آهي، وضاحت ڪريو ته ڇو؟

**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 سيڪنڊن ۾ طئي ڪري ٿو، سائيڪل سوار جي رفتار معلوم ڪريو.

**(Marks 03)**

**52.** Differentiate between Scalar and vector quantity.

**52.** طرفي ۽ بي طرفي مقدار جي وچ ۾ فرق بيان ڪريو.

**(Marks 04)**

| | **Scalar**<br>طرفي مقدار | **Vector**<br>بي طرفي مقدار |
|---|---|---|
| i) | | |
| ii) | | |

**53.** Explain Torque or moment of force.

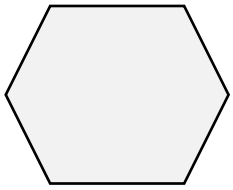
**53.** زور جي معيارِ اثر جي وضاحت ڪريو.

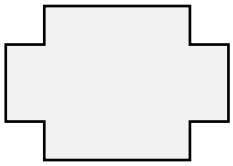
**(Marks 01)**

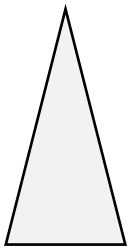
**54.** Indicate the position of centre of gravity in the following objects.

**54.** هيٺ ڏنل شين جي مرڪز ثقل جي سڃاڻپ ڪريو.

**(Marks 04)**







**55.** Define the following terms. **55. هيٺ ڏنل اصطلاحن جي وصف لکو.**

**(Marks 04)**

**Stress** **چڪَ**

**Strain** **بگاڙ**

**Young's Modulus** **ينگ جو ماڊيولس**

**Elasticity** **لچڪ**