

FOUNDATION PROGRAMME CLASS X SCREENING CUM SCHOLARSHIP TEST

(Students who are studying in Class IX)

PHYSICS + CHEMISTRY + BIOLOGY + MATHEMATICS

Name of the Candidate :	
Mobile No. :	
E-mail Id :	
Class & Name of the School Studying:	
Roll number :	

INSTRUCTIONS

- 1. Please ensure stable internet connection before the commencement of the examination.
- 2. As this is an online exam please ensure that you have entered the personal and exam details without fail and ensure that there are 100 questions in your format.
- 3. The students may attend the exam from home or any other convenient place
- 4. Blank paper, clipboard, slide rules etc can be used for rough work.
- 5. Ensure that the candidate is not communicating with any other person throughout the exam duration.
- 6. Electronic gadgets in any form are not allowed to be used during the eaxm time.
- 7. The steady presence of the candidate in front of the system is absolutely necessary.
- 8. Presence of any other person near the system will not be allowed.
- 9. Each question has 4 possible options, of which only one is deemed as the most appropriate. YOU ARE ASKED TO SELECT THE MOST APPROPRIATE OPTION AS THE CORRECT ANSWER.
- 10. Each correct answer will be awarded **FOUR** marks and one mark will be deducted for each incorrect answer. No negative marks for unattented questions.
- 11. Kindly be noted that your movements will be monitored under a proctoring suite and any malpractice will automatically result in the termination of the examination.

1.	A man walks on a straight road from his home to market 2.5 km away with a speed of 5km/h . Finding the market closed, he instantly turns and walks back home with a speed of 7.5 km/h . The average speed of the man over the interval of time 0 to 40 min is equal to :				
	A) 5 km/h	B) $\frac{25}{4}$ km/h	C) $\frac{30}{4}$ km/h	D) $\frac{45}{8}$ km/h	
2.	A body moving with an	initial velocity of 5m/s ac	eccelerate at 2m/s ² . Its velo	city after 10 second is:	
	A) 20m/s	B) 25m/s	C) 5 m/s	D) 22.5 m/s	
3.	In circular motion the				
	A) direction of motion is	s fixed	B) direction of motion cl	nanges continuously	
	C) acceleration is zero		D) velocity is constant		
4.	The breaks applied to a scooter produces a retardation of 6m/s ² . If the scooter takes 2 second to sto after applying the breaks, the distance it covers during this time is:				
	A) 12m	B) 10 m	C) 8 m	D) 6 m	
5.	An athlete completes one round of circular track of diameter 200m in 40s. What will be the distant covered and displacement at the end of 2 minutes 20s?				
	A) 2200m, 200m	B) 1100m, 100m	C) 4200m, 100m	D) 6200m, 200m	
6.	The pressure which is e	exerted by air around us is	known as:		
	A) force		B) atmospheric pressure	2	
	C) muscular force		D) friction		
7.	The force exerted by the	e earth to pull the object t	owards itself is called:		
	A) electrostatic force		B) gravitational force		
	C) muscular force		D) contact force		
8.	The velocity of a body body is:	of mass 20kg decreases f	from 20m/s to 5m/s in a di	stance of 100m. Force on the	
	A) -27.5 N	B) -47.5 N	C) -37.5 N	D) -67.5 N	

9.	Frictional force is:				
	A) Contact force		B) Non-contact force		
	C) Muscular force		D) None of these		
10.	The velocity - time graph of a particle is not a stra		night line its acceleration i	s:	
	A) zero	B) constant	C) negative	D) variable	
11.	Choose the wrong state	ment:			
	A) unit of force is Newton		B) Force changes shap	e of body	
	C) Force is always cons	stant	D) Force is vector quar	ntity	
12.	The device used to measure potential difference between two points in an electric circuit is:				
	A) Voltmeter		B) Voltameter		
	C)Ammeter		D) Galvanometer		
13.	When an object is moved away from a convex mirror, the image:				
	A) becomes smaller		B) moves closer to the	focus	
	C) becomes inverted		D) Both A & B		
14.	The numerical value of a	a physical quantity is:			
	A) directly proportional to the magnitude of the unit selected				
	B) directly proportional to the square of magnitude of the unit selected				
	C) inversely proportional to magnitude of unit selected				
	D) independent of the m	D) independent of the magnitude of unit selected			
15.	When a 1 Newton force	e acts on a 1kg body that	is able to move freely, th	e body receives:	
	A) an acceleration of 1r	m/sec ²	B) an acceleration of 98	8cm/sec ²	
	C) a speed of 1m/sec		D) an acceleration of 10	cm/sec ²	

16.	During electrification by friction:				
	A) Protons are transfer	red from one body to an	other body		
	B) Neutrons are transfe	erred from one body to a	nother body		
	C) Electrons are transfe	erred from one body to a	nother body		
	D) None of the above				
17.	The charge supplied to	a good conductor alway	s resides :		
	A) at the supplied position itself		B) on its outer surface		
	C) inside the body		D) all the above		
18.	3. Buoyant force acting on an object is equal to the:				
	A) mass of the solid immersed		B) weight of the solid immersed		
	C) mass of the liquid displaced by the object		D) weight of the liquid displaced by the object		
19.	If the density of iron is 7	7900 kgm ⁻³ then its relati	ve density is:		
	A) 790	B) 79	C) 7.9	D) 0.79	
20.	A truck of mass 50,000 with ground is (Take g		ure of 2500, 000 Pa. The	surface area of tyres in contact	
	A) $2m^2$		B) 0.2m^2		
	C) $2.5m^2$		D) $2.75m^2$		
21.	In a pressure cooker, th	e food cooks faster beca	ause:		
	A) increased pressure lowers the boiling point of water				
	B) increased pressure ra	nises the boiling point of	water		
	C) decreased pressure r	aises the boiling point o	fwater		
	D) increased pressure d	ecrease the melting poin	at of water		

22.	A girl riding a bicycle along a straight road with a speed of 5ms ⁻¹ throws a stone of mass 0.5kg which has a speed of 15ms ⁻¹ with respect to ground along her direction of motion. The mass of girl and bicycle is 50kg. What is the change in speed of the bicycle:			
				5) 7.0
	A) 2ms^{-1}	B) 0.1 ms^{-1}	C) 0.5 ms^{-1}	D) 5.2ms^{-1}
23.	Two bodies of e	qual masses have kinetic er	nergy in the ratio of 4:9.7	The ratio of their velocity is:
	A) 3:2	B) 4:9	C) 2:3	D) 9:4
24.	A device that me	easures current through a ci	rcuit is called:	
	A) an ammeter a	and is always connected par	rallel to the circuit	
	B) an ammeter a	and is always connected in s	series in the circuit	
	C) a voltmeter a	nd is always connected par	allel to the circuit	
	D) a voltmeter a	nd is always connected in s	eries in the circuit	
25.	A car moving with a speed of 50km/hr can be stopped safely by brakes over a minimum distance of 6m. If it moves at a speed of 100km/h, what will be the minimum distance of stopping safely:			
	A) 12m	B) 18m	C) 6m	D) 24m
26.	Cellulose is a			
	A) Natural poly	mer made up of glucose uni	ts and fructose units	
	B) Natural poly	mer made up of glucose uni	ts	
	C) Natural poly	mer made up of sucrose uni	its	
	D) Natural poly	mer made up of fructose un	its	
27.	When this polynlikely to be.	mer was introduced in 1939	, it created a public sensati	ion or mania. This polymer is most
	A) Bakelite	B) Teflon	C) Nylon	D) Terylene
28.	Dacron is the m	ost popular polyesters. Dac	ron is commonly known a	S
	A) Teflon	B) Nylon	C) Melamine	D) Terylene
		CD L CE I	EOD DOLLGH WODL	_

29.	PVC is					
	A) Poly vinyl cyan	ide and it is a thermoplastic	c			
	B) Poly vinyl carbo	onate and it is a thermosett	ing plastic			
	C) Poly vinyl chlor	ride and it is a thermoplasti	c			
	D) Poly vinyl cyanide and it is a thermosetting plastic					
30.	X is polymer on whand Y probably are		tick and Y is a polymer	which does not catches fire easily. X		
	A) Ceramic and Ba	akelite	B) Cellulose and M	Melamine		
C) Teflon and Melamine			D) Teflon and Ny	lon		
31.	31. Aviation Turbine Fuel (ATF) is used in jet aircrafts. Which of the following petroleum constituer main component present in ATF?			llowing petroleum constituent is the		
	A) LPG	B) Kerosene	C) Bitumen	D) Diesel		
32.	The presence of wh	hich of the following acid i	s not usually observed a	acid rain?		
	A) Nitric acid		B) Hydrochloric a	acid		
	C) Sulphuric acid		D) Carbonic acid			
33.	forms a new substan		ter. To the resulting solut	s behind a powdery ash, which in turn ion, add two drops of phenolphthaleir		
	A) The powdery as	sh formed is magnesium ca	arbonate			
	B) The substance Y	K is magnesium oxide				
	C) Solution turns p	ink colour				
	D) Solution remain	s colourless				

34. For the neutralisation reaction

$$NaOH + HCl \longrightarrow NaCl + H_2O$$

A) Heat is absorbed

- B) Heat is evolved
- C) The reaction mixture become cold
- D) NaCl formed is a base
- 35. Use of ammonium sulphate as fertilizer, acidity of soil increases which affect crops. The use of which of the following compound decreases the excessive acidity?
 - A) Slaked lime
- B) Organic matter
- C) Gypsum
- D) Plaster of paris
- $Vinegar + Baking \ soda \longrightarrow \underbrace{X}_{\left(gas\right)} \xrightarrow{lime \ water} \underbrace{Y}_{\left(solid\right)} + \underbrace{Z}_{\left(liquid\right)}. \ Then \ pick \ out \ the \ correct \ statement.$ 36.

 - A) $X = CO_2$; $Y = Ca(OH)_2$; $Z = H_2$ B) $X = CO_2$; $Y = CaCO_3$; $Z = Ca(OH)_2$
 - C) $X = CO_2$; $Y = Ca(OH)_2$; $Z = CaCO_3$ D) $X = CO_2$; $Y = CaCO_3$; $Z = H_2O$
- 37. Manufacture of nitrogen involves two steps
 - steps 1: Liquefaction of Air
 - steps 2: Distillation of liquid air by boiling

Here

- A) step 1 is a physical change: step 2 is a chemical change
- B) step 1 is a chemical change: step 2 is a physical change
- C) Both steps are physical changes
- D) Both steps are chemical changes
- Which of the following is the metal present in stainless steel? 38.
 - A) Chromium
- B) Carbon
- C) Nickel
- D) Nitrogen

39.	Rust is chemically hydrated				
	A) Fe ₃ O ₄	B) FeO	C) Fe ₂ O ₃	D) FeCO ₃	
40. The window locks of houses are mainly made up of Iron. The rusting of when the house is located at				window locks becomes faster	
	A) Deserts	B) River side	C) Lake side	D) Sea shore	
41.	Which of the following	is used in place of coal-tar	r for metalling the road?		
	A) Coke	B) Bitumen	C) Naphthalene	D) Coal	
42.	In our country, natural g	as has been found in the f	following places except		
	A) Tripura	B) Meghalaya	C) Rajasthan	D) Anthra pradesh	
43. Lithium is a metal which is usually stored in a substance 'X' which is used in skin mo Identify 'X'				in skin moisturising product.	
	A) Naphthalene		B) Coconut oil		
	C) Paraffin wax		D) Lubricating oil		
44.	Among the following th	e source in nature that car	n be exhausted by human a	activities is	
	A)Air	B) Sunlight	C) Minerals	D) Both A & B	
45.	When a copper vessel is is a mixture of	exposed to moist air for l	ong, it acquires a dull gree	en coating. The green material	
	A) $Cu(OH)_2$ and $CuCO_3$		B) CuCO ₃ and Cu ₂ O		
	C) CuO and Cu ₂ O		D) $Cu(OH)_2$ and Cu	1 ₂ O	
46.	Which of the following	metal can form a colourles	ss sulphate?		
	A) Cu	B) Fe	C) Zn	D)All	
47.	Which of the following	gas can be used in making	greddish organge coloured	d advertising signs?	
	A)Argon	B) Chlorine	C) Neon	D) Mercury	

48.	The compound present in colocasia leaves causes itching is					
	A) Calcium carbonate		B) Ca	B) Calcium Oxalate		
	C) Calcium sulphate		D) C	alcium chloride		
49.	Which of the following element recently added to		period	dic table has highest at	omic number?	
	A) Roentgenium		B) M	lendelevium		
	C) Coppernicium		D) M	Ioscovium		
50.	Which of the following is the	first artificial elemen	t?			
	A) Radium		B) Te	ennissine		
	C) Organesson		D) Te	echnetium		
51.	Which of the following is slipper shaped					
	A) Euglena	B) Paramoecium		C) Amoeba	D)Aspergillus	
52.	Lactic acid bacteria increases	s the amount of	in 1	milk		
	A) Vitamin A	B) Vitamin C		C) Vitamin B ₁₂	D) Vitamin D	
53.	How many of the following a Citrus canker, AIDS	re bacterial diseases	Choler	ra, Herpes, Measles, M	lalaria, Yellow vein mosaic	
	A) 2	B) 4		C) 5	D) 3	
54.	Which among the following s	tatements is true				
	A) Typhoid and cholera spreads through contaminated food and water					
	B) Sugar increases the moisture content in food which inhibits the growth of bacteria which spoil food					
	C) Atmospheric air contains about 32% nitrogen					
	D) Malaria is incurable					
55.	Foot and mouth diseases is c	aused by				
	A) Virus			B) Bacterium		
	C) Viroids		D) Helminth			

56.	Which of the following is an example for in-situ conservation?				
	A) Seed bank	B) Sacred groves	C) Zoological parks	D) Botanical garden	
57.	The zone in biosphere reserve	s that is free from human in	ntervention		
	A) Core zone	B) Buffer zone	C) Transition zone	D) Limnetic zone	
58.	Animals on the verge of extino	ction are called			
	A) Vulnerable	B) Threatened	C) Endangered	D) Rare	
59.	Which of the following can be	e used as manure:			
	A) Humus	B) NPK	C) Urea	D)Ammonium sulphate	
60.	2,4-D is used as a:				
	A) Weedicide	B) Fungicide	C) Pesticide	D) Rodenticide	
61. The first step before growing crops in of the soil					
	A) Irrigation	B) Adding manure	C) Sowing	D) Preparation of soil	
62.	Match the following:				
	Column I	Column II			
	i) Groundnut	p) Rabi crop			
	ii) Mustard	q) Kharif crop			
	iii) Moat	r) Traditional method			
	iv) Drip system	s) Modern method			
	A) $i-s$; $ii-p$; $iii-r$; $iv-q$		B) $i-q$; $ii-p$; $iii-r$;	iv - s	
	C) $i-p$; $ii-q$; $iii-r$; $iv-s$		D) i-p; ii-q; iii-s;	iv - r	
63.	Gymnosperms lack:				
	A) Phloem		B) Sieve tubes		
	C) Xylem parenchyma		D) Albuminous cells		

64.	In which among the following movement of particles, ATP is not required				
	A) Facilitated diffusion		B) Downhill transport		
	C) Active transport		D) Both A and B		
65.	Transport of organic materials	through phloem occurs by	y		
	A) Pressure gradient	B) Transpiration	C) Guttation	D) Exudation	
66.	Apoplastic movement of water	er occur through			
	A) Intracellular spaces		B) Intercellular spaces		
	C) Plasmodesmatal connection	ns	D) Through cell memb	rane	
67.	Transportation of minerals alo	ng with water through xyle	em is called		
	A) Exudation	B) Bleeding	C) Ascent of sap	D) Guttation	
68.	Fluid mosaic model of plasma	n membrane was formulate	ed by		
	A) Singer and Nicholson		B) Jansen and Jansen		
	C) Koliker and Benda		D) Griffith		
69.	Consider the two statements	and choose the correct opt	ion.		
	i) Nissils granules are present	in dendrites			
	ii) Nodes of Ranvier are the po	oints where myelin is pres	ent		
	A) Both i) and ii) are true				
	B) i) is true but ii) is false				
	C) i) is false but ii) is true				
	D) Both i) and ii) are false				
70.	Which among the following is	a single membrane bound	organelle?		
	A) Nucleus		B) Mitochondria		
	C) Lysosome		D) Chloroplast		

71. The membrane of vacuole is called						
	A) Tonoplast		B) Elaioplas	t		
	C) Plasma membrar	ne	D) Cell men	nbrane		
72.	The fallopian tube is	also called				
	A) Vas deferens	B) Epididymis	C) Oviduct	D) Vasa recta		
73.	In humans, which di	ivision takes place in orde	er to produce gametes			
	A) Mitosis	B) Meiosis	C)Amitosis	D) Equatorial division		
74.	Which of the follow	ing is an inverted pear sha	aped structure?			
	A) Uterus	B) Ovary	C) Testes	D) Zygote		
75.	Lizard is an example of					
	A) Reptile - Viviparo	ous	B)Amphibia	an -Oviparous		
	C) Reptile-Oviparous		D)Amphibi	an -Viviparous		
76.	If $x = 7 + 4\sqrt{3}$, the	on the value of $x^2 + \frac{1}{x^2}$ is	5			
	A) 193	B) 194	C) 195	D) 196		
77.	LCM of the fraction	$\frac{5}{16}$, $\frac{25}{8}$ and $\frac{15}{24}$ is				
	A) $\frac{5}{48}$	B) $\frac{5}{8}$	C) $\frac{75}{48}$	D) $\frac{75}{8}$		
78.	The value of $\frac{2^{1/2} \times 3}{10^{-1/4}}$	$\frac{3^{1/3} \times 4^{1/4}}{5 \times 5^{3/5}} \div \frac{4^{-2/3} \times 5^{-7/5}}{4^{-3/5} \times 6^{-1/3}} i$	s equal to			
	A) 10	B) 1	C) 6	D) 18		

- 79. The value of $\frac{5^{0.25} \times (125)^{0.25}}{(256)^{0.10} \times (256)^{0.15}}$ is
 - A) $\frac{\sqrt{5}}{2}$ B) $\frac{5}{4}$

- C) $\frac{25}{2}$
- D) $\frac{25}{16}$

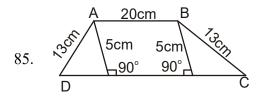
- 80. If 20% of 60% of number is 144, then the number is
 - A) 1200
- C) 8640
- D) 3600
- 1/5th of a flagpole is black, 1/4th is white and the remaining three meters is painted yellow. The length of the 81. flagpole is
 - A) $5\frac{5}{11}$ m B) $\frac{60}{11}$ cm
- C) $\frac{50}{11}$ m
- D) $\frac{56}{11}$ m
- 82. If $\frac{x-a}{b+c} + \frac{x-b}{c+a} + \frac{x-c}{a+b} = 3$ then x is equal to
 - A) $\frac{a+b+c}{2}$ B) a+b+c C) 2(a+b+c)
- D) 2abc

- 83. The value of $\frac{3}{7} + \left(\frac{-6}{11}\right) + \left(\frac{-8}{21}\right) + \left(\frac{5}{22}\right)$ is equal to
- A) $\frac{125}{462}$ B) $\frac{-125}{462}$ C) $\frac{-129}{462}$
- D) $\frac{129}{462}$

- 84. $\frac{1}{1+\sqrt{3}} + \frac{1}{\sqrt{3}+\sqrt{5}} + \frac{1}{\sqrt{5}+\sqrt{7}} + \dots + \frac{1}{\sqrt{34}+\sqrt{36}}$ is
 - A)0

- B) -5/2
- C) 6/2

D) 5/2



ABCD is a trapezium with AB||CD as shown in the figure. the value of CD is

A) 44 cm

B) 32 cm

C) 42 cm

D) 60 cm

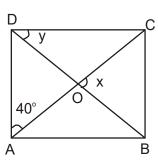
86. The number which is subtracted from $\frac{27}{13}$ to get $\frac{-3}{7}$ is

- A) $\frac{228}{91}$
- B) $\frac{1}{91}$
- C) $\frac{200}{91}$
- D) $\frac{198}{91}$

87. The length of a rectangle is 4 cm more than the breadth and the perimeter is 11 cm more than the breadth. The length of the rectangle is

- A) 6 cm
- B) 4 cm
- C) 5 cm
- D) 12 cm

88. In the diagram, ABCD is a rhombus



The value of x-y is

A) 50°

B) 40°

- C) 30°
- D) 20°

- 89. The value of $\sqrt{10 + \sqrt{25 + \sqrt{108 + \sqrt{154 + \sqrt{225}}}}}$ is
 - A) 6

B) 5

C) 10

- D) 4
- 90. If $\sqrt[3]{\frac{a^6 \times b^3 \times c^{21}}{c^9 \times a^{12}}} = \frac{b c^k}{a^{k/2}}$, then k is equal to
 - A) 1

B) 2

C) 3

D) 4

- 91. The value of $(25)^3 + (-10)^3 + (-15)^3$ is equal to
 - A) 11250

B) -11250

C) 12150

- D) -12150
- 92. If $27^k = \frac{9}{3^k}$, then the value of $\frac{1}{k^2}$ is
 - A) 25

B) 81

C) 4

- D) 9
- 93. The number formed by writing a non-zero digit six times is always divisible by
 - A) 9

B) 13

C) 11

D) 17

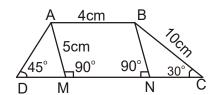
- 94. If $\sqrt{6} = 2.449$ then the value of $\frac{3\sqrt{2}}{2\sqrt{3}}$ is close to
 - A) 1.2245

B) 0.816

C) 0.613

D) 2.449

95. The area of the trapezium ABCD is



A) $\frac{5}{2}$ $\left(9 + 5\sqrt{3}\right)$ sq. cm

B) $\frac{5}{2} (13 + 5\sqrt{3})$ sq. cm

C) $\frac{5}{2} (8 + 5\sqrt{3})$ sq. cm

- D) $\frac{5}{2} (10 + 5\sqrt{3})$ sq. cm
- 96. If $x = \frac{\sqrt{5} + \sqrt{3}}{\sqrt{5} \sqrt{3}}$, then the value of $x^3 + \frac{1}{x^3}$ is
 - A) 644
- B) 512
- C) 488
- D) 348

- 97. If $x \frac{1}{x-2} = 2 \frac{1}{x-2}$, then x is equal to
 - A) 1

B) 2

C) 3

- D) None of these
- 98. The value of $\frac{0.76 \times 0.76 \times 0.76 + 0.24 \times 0.24 \times 0.24}{0.76 \times 0.76 0.76 \times 0.24 + 0.24 \times 0.24}$ is
 - A) 0.52
- B) 1

- C) 0.01
- D) 0.1

- The smallest number which when divided by 20,25,35 and 40 and leaves a remainder of 14,19,29 and 34 99. respectively is
 - A) 1404
- B) 1664
- C) 1394
- D) 1406

- 100. The value of $\frac{(0.6)^{0} (0.1)^{-1}}{\left(\frac{3}{2^{3}}\right)^{-1} \left(\frac{3}{2}\right)^{3} + \left(\frac{-1}{3}\right)^{-1}}$ is

 - A) $\frac{3}{2}$ B) $\frac{-3}{2}$ C) $\frac{2}{3}$

D) $\frac{1}{3}$

FOUNDATION - CLASS X (STUDYING IX) - KEY

<u>I</u>	PHYSICS	<u> </u>	CHEMISTRY		BIOLOGY		MATHS
1.	D	26.	В	51.	В	76.	В
2.	В	27.	C	52.	C	77.	D
3.	В	28.	D	53.	A	78.	A
4.	A	29.	C	54.	A	79.	В
5.	A	30.	C	55.	A	80.	A
6.	В	31.	В	56.	В	81.	A
7.	В	32.	В	57.	A	82.	В
8.	C	33.	C	58.	C	83.	В
9.	A	34.	В	59.	A	84.	D
10.	D	35.	A	60.	A	85.	A
11.	C	36.	D	61.	D	86.	A
12.	A	37.	C	62.	В	87.	C
13.	D	38.	A,C	63.	В	88.	В
14.	C	39.	C	64.	D	89.	D
15.	A	40.	D	65.	A	90.	D
16.	C	41.	В	66.	В	91.	A
17.	В	42.	В	67.	C	92.	C
18.	D	43.	C	68.	A	93.	C
19.	C	44.	C	69.	В	94.	A
20.	В	45.	A	70.	C	95.	В
21.	В	46.	C	71.	A	96.	C
22.	В	47.	C	72.	C	97.	D
23.	C	48.	В	73.	В	98.	В
24.	В	49.	D	74.	A	99.	C
25.	D	50.	D	75.	C	100.	В