

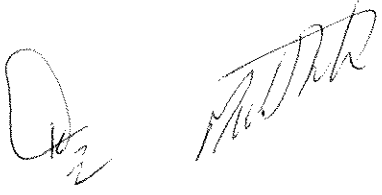
**AWARD LIST**  
**SCREENING TEST (WRITTEN)**  
**FOR THE POST OF TRAINED GRADUATE TEACHERS (TGT) (COTNRACT)**  
**UNIVERSITY MODEL SCHOOL, UNIVERSITY OF PESHAWAR**

Dated.20.01.2023

<b>S#</b>	<b>Name of applicant with parentage</b>	<b>Subject</b>	<b>Marks</b>
1.	Hina Iqbal D/O Mr. Muhammad Iqbal	Physics	13
2.	Khushbakht Rahat Noor D/O Mr. Rahat Noor	Physics	30

2.5

6



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1.	Asad Ahmad Jan S/O Mr. Naqdullah Khan	Physics	44	8-8
2.	Ata Ullah S/O Mr. Mumtaz Khan	Physics	37	7-4
3.	Ayaz Khan S/O Mr. Niaz Khan	Physics	40	8
4.	Fawad Ahmad S/O Mr. Fazli Rabi	Physics	Absent	
5.	Majid Ali S/O Mr. Mumtaz Ali	Physics	35	4
6.	Sana Ullah S/O Mr. Abdullah	Physics	43	8-6
7.	Tauseer Ahmad S/O Mr. Naseer Khan	Physics	34	6-8



40  
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4/5

M. J. Khan

## Screening Test for the post of Trained Graduate Teacher (TGT)

Name: Ayaz Khan

Father name: Niaz Khan

- ✓ 1. Which of the following is the smallest prefix?  
(a) ✓ atto (b) pico (c) nano (d) femto
- ✓ 2. A body in equilibrium must not be  
(a) at rest (b) moving (c) rotating (d) ✓ accelerating
- ✓ 3. The slope of distance-time graph represents  
(a) acceleration (b) change in acceleration (c) ✓ speed (d) distance
- ✓ 4. A bike begins to accelerate at a constant  $0.3 \text{ m/s}^2$  for 3s, what is its change in velocity?  
(a) ✓ 0.9 m/s (b) 1.5 m/s (c) 1.95 m/s (d) 2.4 m/s
- ✓ 5. KITAB UL MANAZIR is the name of book written by  
(a) Yaqub Kindi (b) ✓ Ibnal Haitham (c) Al Beruni (d) None
- ✗ 6. How many times the centripetal force will increase if the mass of a body moving with uniform speed in a circle is doubled?  
(a) two times (b) three times (c) ✓ four times (d) six times
- ✓ 7. Which of the following forces can act as centripetal force:  
(a) tension (b) friction (c) gravitational force (d) ✓ all of these
- ✓ 8. Conventionally anti-clock wise torque is taken as  
(a) negative (b) ✓ positive (c) parallel (d) zero
- ✓ 9. The angle at which 'x' and 'y' components of force are equal is  
(a)  $0^\circ$  (b)  $30^\circ$  (c) ✓  $45^\circ$  (d)  $60^\circ$
- ✓ 10. The S.I unit for gravitational constant 'G' is  
(a)  $\text{NKg}^2$  (b) ✓  $\text{Nm}^2\text{Kg}^{-2}$  (c)  $\text{Nm}^2\text{Kg}^2$  (d)  $\text{Nm}^{-2}\text{Kg}^2$
- ✓ 11. When a body is moved from sea level to the top of a mountain, there is change in the body's  
(a) mass (b) ✓ weight (c) both mass & weight (d) none
- ✓ 12. An object of mass 10 kg is lifted vertically through a height of 5 m, the gravitational potential energy gained by the object is  
(a) 10 J (b) 20 J (c) 50 J (d) ✓ 490 J

- ✓ 13. Which material is more elastic  
 (a) wood (b) rubber (c) ✓ steel (d) plastic
- ✓ 14. The S.I unit of strain is  
 (a)  $\text{Kgm}^{-3}$  (b) Pa (c)  $\text{Nm}^{-2}$  (d) ✓ none
- ✓ 15. Liquid and gases are collectively categorized as  
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- ✓ 17. The amount of heat required to raise the temperature of 1 kg of water by 1 k is  
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- X 18. The transfer of heat by convection is smallest in  
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- ✓ 19. Which of the following has the highest thermal conductivity  
 (a) Wood (b) ✓ water (c) wool (d) air
- ✓ 20. A wave transports  
 (a) ✓ Energy but no matter (b) matter but no energy (c) both energy & matter  
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 (a) mass (b) spring constant (c) amplitude of vibrations (d) ✓ All  
 of the above affect the period
- ✓ 22. An echo occurs when a sound wave is  
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- ✓ 23. Which of the following cannot transmit sound  
 (a) solid (b) liquid (c) gas (d) ✓ vacuum
- ✓ 24. The focal length of convex mirror with radius of curvature 10 cm is  
 (a) +10 cm (b) +5 cm (c) -10 cm (d) ✓ -5 cm
- ✓ 25. The human eye forms the image of an object at its  
 (a) Iris (b) ✓ retina (c) pupil (d) cornea
- X 26. The value of coulomb constant (K) depends on  
 (a) Value of charges (b) material medium (c) separation between charges  
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- ✓ 28. The resistance of a wire will decrease by increasing  
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- ✓ 29. Two resistance of  $1\ \Omega$  are connected in parallel, the equivalent resistance is  
 (a)  $2\ \Omega$  (b)  $1.5\ \Omega$  (c)  $1\ \Omega$  (d)  $0.5\ \Omega$
- ✓ 30. Slip rings are a part of  
 (a) DC motor (b) AC generator (c) transformer (d) magnet
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 (a)  $X=AD$  (b)  $X=A+B$  (c)  $X=AB$  (d)  $X=A+B$
- ✗ 36. The phenomenon of total internal reflection is used in the transmission of signal through  
 (a) Electric wires (b) optical fiber (c) electromagnetic waves (d) radio
- ✓ 37. Telephone transmission is the example of transmission of signals through  
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- ✓ 41. A convex lens with focal length 8.00 cm has the power of the lens  
 (a) 2.05 D (b) 4.00 D (c) ✓ 12.5 D (d) 16.0 D
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 (a)  $1.5 \times 10^{-3}$  (b) ✓  $2.5 \times 10^{-5}$  (c)  $3.5 \times 10^{-6}$  (d)  $4.5 \times 10^{-7}$
- ✓ 50. A small flashlight bulb draws 300 mA from its 1.5 V battery, the resistance of the bulb is  
 (a)  $3 \Omega$  (b) ✓  $5 \Omega$  (c)  $10 \Omega$  (d)  $15 \Omega$

$$q = \frac{dV}{dt} \quad \Delta V = 9 \times 10^1 \quad \frac{0.3 \times 3}{10} = \frac{9}{10} \quad \frac{0.9}{9} = \frac{1}{10} \quad F = \frac{mv^2}{r} = \frac{m(2v)^2}{r} = \frac{4mv^2}{r}$$

$$F = \frac{GMm}{r^2} \quad 4 = \frac{NM}{M}$$

$$\frac{1}{1} + \frac{1}{1} = \frac{2}{1} \quad F = \frac{10^9 \times 10^2}{2^2}$$

$$E = -L \frac{dI}{dt} \quad F = \frac{10^9 \times 10^2}{\left(\frac{1}{10}\right)^2}$$

$$L = \frac{V \cdot \text{Sec}}{\text{Amp}} \quad F = 4$$

$$300 \times 10^3$$

$$V = IR \quad R = \frac{V}{I} = \frac{1.5 \times 10^2}{200 \times 10^3} = \frac{1.5 \times 10^2}{2 \times 10^5} = \frac{1.5 \times 10^2}{2 \times 10^5}$$

$$V = \frac{W}{C} = \frac{10^2 \times 2.5 \times 10^3}{2.5 \times 10^3}$$

$$f = \frac{1}{2\pi} \sqrt{\frac{g}{L}}$$

$$f = \frac{1}{2\pi} \sqrt{\frac{g}{L}} \quad \frac{12}{1200} = \frac{1}{10} = \frac{1}{10}$$

35  
50

D. G.

MUMTAZ ALI

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Name: MAJID ALI

Father name: MUMTAZ ALI

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 (a) 3  $\Omega$       (b) 5  $\Omega$       (c) 10  $\Omega$       (d) 15  $\Omega$

$2.5 \times 100$   
 $2.500 \times 10$

$$W = \frac{q}{V} = \frac{2.5 \times 10^{-7}}{100} \times \frac{100}{16} = \frac{2.5 \times 10^{-7}}{16} \times 100$$

$V = IR$   
 $\frac{1.5}{300 \text{ mA}} = R$   
 $\frac{1.5}{300 \times 10^{-3}} = R$   
 $\frac{1.5}{0.3} = R$   
 $5 = R$

$$\frac{1.5}{300} \times \frac{1}{10}$$

$$= \frac{1.5}{3000}$$

$$V = IR$$

$$\frac{V}{I} = \frac{1.5}{300 \times 1000} \quad V = 8$$

$$F_c = \frac{mv^2}{r}$$

$$1.5 F_c = \frac{2mv^2}{r}$$

$$\frac{1}{R_1} = R_1 + R_2$$

$$= 2$$

$$V = IR$$

$$\frac{V}{I} = R$$

$$300000$$

$$a = 0.3, t = 3$$

$$c = \frac{100}{9}$$

$$\frac{1.5}{300 \times 10^5} = \frac{0.2}{l_0}$$

$$a = \frac{v}{v}$$

$$2.5$$

$$\frac{0.0000002.5}{10000} \times 10^3$$

$$0.5 \frac{1.5}{300 \times 10^{-2}}$$

$$\frac{0.3}{1.3} = 0.9$$

$$r = 2\pi \sqrt{\frac{m}{k}}$$

$$\frac{1.5}{30} = \frac{30}{30}$$

$$\frac{1.5}{5} \times 10^6 = \frac{9 \text{ mm}}{r^2}$$

$$\frac{F}{10^8} \text{ Nm}^2$$

$$f_2$$

$$mgh$$

$$= 50 \times \frac{10}{500} \times \frac{10}{100}$$

$$f = \sqrt{\frac{g}{L}}$$

$$\sqrt{\frac{1}{2}}$$

$$= m \times g \times h$$

$$= 10 \times 9 \times 5$$

$$= \frac{8 \times 90}{450} = \sqrt{\frac{1}{2}} l$$

$$2$$

$$F = k \frac{q_1 q_2}{r}$$

$$\frac{1}{2} (10)$$

$$2.5 \times 10^{-7}$$

$$10 \times 10$$

$$\frac{2.5 \times 10^{-7}}{10000}$$

$$2.5 \times 10000$$

$$\frac{N \cdot A \cdot M \cdot P}{0.7120}$$

$$0.7120$$

30  
50

D  
K

M

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Father name: Rabat Noor

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 (a) Value of charges (b) material medium (c) separation between charges  
 (d) all of these

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 (a) Q, Q (b) Q, 0 ✓(c) Q, -Q (d) Q/2, -Q/2
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- ✓ 29. Two resistance of  $1\ \Omega$  are connected in parallel, the equivalent resistance is  
 (a)  $2\ \Omega$  (b)  $1.5\ \Omega$  (c)  $1\ \Omega$  ✓(d)  $0.5\ \Omega$
- ✓ 30. Slip rings are a part of  
 (a) DC motor ✓(b) AC generator (c) transformer (d) magnet
- X 31. A step-up transformer increases  
 (a) power (b) energy (c) voltage ✓(d) current
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 (a) Vs/A ✓(b) VA/m (c) As/V (d) V/A
- X 33. If the magnetic field is applied parallel to the direction of electron beam, the electron will  
 (a) Speed up (b) slow down ✓(c) deflect (d) not change its state
- X 34. If the electric field is applied to the direction of electron beam, the electron will  
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- ✓ 35. The Boolean equation for NAND gate is  
 (a)  $X=AD$  (b)  $X=A+B$  ✓(c)  $X=\overline{AB}$  (d)  $X=\overline{A+B}$
- ✓ 36. The phenomenon of total internal reflection is used in the transmission of signal through  
 (a) Electric wires ✓(b) optical fiber (c) electromagnetic waves (d) radio
- ✓ 37. Telephone transmission is the example of transmission of signals through  
 (a) Electric wires (b) optical fiber (c) electromagnetic waves ✓(d) all a, b & c
- X 38. What type of nucleus decay leaves the number of protons and neutrons unchanged?  
 (a) Alpha decay ✓(b) Beta decay (c) Gamma decay (d) both a & b
- ✓ 39. Origin of energy from the Sun and Stars is  
 (a) fission ✓(b) fusion (c) carbon dating (d) radioactivity

- X 40. If the distance between two charged particles is halved, the Coulomb force between the two charge particles become  
 (a) half      ✓(b) one quarter      (c) double      (d) four times
- ✓ 41. A convex lens with focal length 8.00 cm has the power of the lens  
 (a) 2.05 D      (b) 4.00 D      ✓(c) 12.5 D      (d) 16.0 D
- ✓ 42. The loudness of a sound is most closely related to its  
 (a) frequency      (b) period      (c) wavelength      ✓(d) amplitude
- X 43. If the pendulum completes exactly 12 cycles in 2.0 min, the frequency of the pendulum is  
 (a) 0.10 Hz      (b) 0.17 Hz      ✓(c) 6.0 Hz      (d) 10.0 Hz
- X 44. An object at Earth and taken to Moon should have  
 (a) Same mass/more weight ✓(b) less mass/less weight      (c) same mass/same weight  
 weight      (d) same mass/less weight
- ✓ 45. The shortest distance between two couple forces is  
 (a) moment arm      ✓(b) couple arm      (c) radius      (d) double moment
- ✓ 46. The unit used for pressure in weather maps is  
 (a) Atm      (b) Pa      ✓(c) bar      (d)  $\text{Nm}^{-2}$
- X 47. If the string of the pendulum is shortened to half its original length, then the frequency will  
 (a) Increase by a factor of  $\sqrt{2}$       (b) decrease by a factor of  $\sqrt{2}$       ✓(c) increase by a factor of  $\frac{1}{\sqrt{2}}$       (d) decrease by a factor of  $\frac{1}{\sqrt{2}}$
- X 48. Cytoscope is an instrument used to diagnose  
 (a) blood      ✓(b) eyes      (c) stomach      (d) bladder
- X 49. How much work must be done to increase the potential of a charge  $2.5 \times 10^{-7}$  C by 100 V?  
 (a)  $1.5 \times 10^{-3}$       (b)  $2.5 \times 10^{-5}$       ✓(c)  $3.5 \times 10^{-6}$       (d)  $4.5 \times 10^{-7}$
- X 50. A small flashlight bulb draws 300 mA from its 1.5 V battery, the resistance of the bulb is  
 ✓(a)  $3 \Omega$       (b)  $5 \Omega$       (c)  $10 \Omega$       (d)  $15 \Omega$



341  
50

40

MTR

11:10 am

## Screening Test for the post of Trained Graduate Teacher (TGT)

Name: Touseef Ahmad

Father name: Naseer Khan

- ✓ 1. Which of the following is the smallest prefix?  
(a) atto (b) pico (c) nano (d) femto
- X 2. A body in equilibrium must not be  
(a) at rest (b) moving (c) rotating (d) accelerating
- ✓ 3. The slope of distance-time graph represents  
(a) acceleration (b) change in acceleration (c) speed (d) distance
- ✓ 4. A bike begins to accelerate at a constant  $0.3 \text{ m/s}^2$  for 3s, what is its change in velocity?  
(a) 0.9 m/s (b) 1.5 m/s (c) 1.95 m/s (d) 2.4 m/s
- ✓ 5. KITAB UL MANAZIR is the name of book written by  
(a) Yaqub Kindi (b) Ibnal Haitham (c) Al Beruni (d) None
- ✓ 6. How many times the centripetal force will increase if the mass of a body moving with uniform speed in a circle is doubled?  
(a) two times (b) three times (c) four times (d) six times
- X 7. Which of the following forces can act as centripetal force:  
(a) tension (b) friction (c) gravitational force (d) all of these
- ✓ 8. Conventionally anti-clock wise torque is taken as  
(a) negative (b) positive (c) parallel (d) zero
- ✓ 9. The angle at which 'x' and 'y' components of force are equal is  
(a)  $0^\circ$  (b)  $30^\circ$  (c)  $45^\circ$  (d)  $60^\circ$
- ✓ 10. The S.I unit for gravitational constant 'G' is  
(a)  $\text{NKg}^2$  (b)  $\text{Nm}^2\text{Kg}^{-2}$  (c)  $\text{Nm}^2\text{Kg}^2$  (d)  $\text{Nm}^{-2}\text{Kg}^2$
- ✓ 11. When a body is moved from sea level to the top of a mountain, there is change in the body's  
(a) mass (b) weight (c) both mass & weight (d) none
- X 12. An object of mass 10 kg is lifted vertically through a height of 5 m, the gravitational potential energy gained by the object is  
(a) 10 J (b) 20 J (c) 50 J (d) 490 J

- ✓ 13. Which material is more elastic  
 (a) wood (b) rubber (c) steel (d) plastic
- ✓ 14. The S.I unit of strain is  
 (a)  $\text{Kgm}^{-3}$  (b) Pa (c)  $\text{Nm}^{-2}$  (d) none
- ✓ 15. Liquid and gases are collectively categorized as  
 (a) Liquid (b) Pascals (c) Fluids (d) None
- ✓ 16. When water at  $0^\circ\text{C}$  is heated, it contracts till temperature reaches  
 (a)  $1^\circ\text{C}$  (b)  $4^\circ\text{C}$  (c)  $100^\circ\text{C}$  (d)  $1000^\circ\text{C}$
- X 17. The amount of heat required to raise the temperature of 1 kg of water by 1 k is  
 (a) 100 J (b) 200 J (c) 310 J (d) 4190 J
- ✓ 18. The transfer of heat by convection is smallest in  
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- ✓ 19. Which of the following has the highest thermal conductivity  
 (a) Wood (b) water (c) wool (d) air
- ✓ 20. A wave transports  
 (a) Energy but no matter (b) matter but no energy (c) both energy & matter  
 (d) none
- ✓ 21. Which of the following does not affect the period of the mass-spring system  
 (a) mass (b) spring constant (c) amplitude of vibrations (d) All  
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- ✓ 22. An echo occurs when a sound wave is  
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- ✓ 50. A small flashlight bulb draws 300 mA from its 1.5 V battery, the resistance of the bulb is  
 (a)  $3 \Omega$  (b)  $5 \Omega$  (c)  $10 \Omega$  (d)  $15 \Omega$

44  
50

42

AMTR

# Screening Test for the post of Trained Graduate Teacher (TGT)

Name: Asad Ahmad Jain

Father name: Naqd Ullah Khan.

- ✓ 1. Which of the following is the smallest prefix?  
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- ✓ 2. A body in equilibrium must not be  
(a) at rest (b) moving (c) rotating (d)  accelerating
- ✓ 3. The slope of distance-time graph represents  
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(a)  $\text{NKg}^2$  (b)   $\text{Nm}^2\text{Kg}^{-2}$  (c)  $\text{Nm}^2\text{Kg}^2$  (d)  $\text{Nm}^{-2}\text{Kg}^2$
- ✓ 11. When a body is moved from sea level to the top of a mountain, there is change in the body's  
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- ✓ 12. An object of mass 10 kg is lifted vertically through a height of 5 m, the gravitational potential energy gained by the object is  
(a) 10 J (b) 20 J (c) 50 J (d)  490 J

- ✓ 13. Which material is more elastic  
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 (a) Value of charges  material medium (c) separation between charges  
 (d) all of these

$$\frac{1}{R_e} = \frac{1}{1} + \frac{1}{1}$$

$$\frac{1}{R_e} = \frac{2}{1}$$

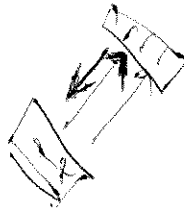
$$R_e = \frac{1}{2} = 0.5$$

$$L = \frac{d\Phi}{dt}$$

$$L = \frac{V}{dI/dt}$$

$$\frac{\text{VOLT}}{\text{A/S}}$$

$$\frac{\text{V} \cdot \text{S}}{\text{A}}$$



Not + AND

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$$F = \frac{k q_1 q_2}{(r/2)^2}$$

$$P_{\text{cos}} = \frac{1}{8}$$

$$= \frac{1}{8}$$

$$P_{\text{cos}} = \frac{1}{8}$$

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 (a)  $3 \Omega$    $5 \Omega$  (c)  $10 \Omega$  (d)  $15 \Omega$

$$a = 0.3 \text{ m/s}^2$$

$$\Delta t = 3 \text{ s}$$

$$a = \frac{\Delta v}{\Delta t}$$

$$\boxed{\Delta v = 0.9 \text{ m/s}}$$

$$F = \frac{G m_1 m_2}{r^2}$$

$$G = \frac{\text{N} \cdot \text{m}^2}{\text{kg}^2}$$

$$m = 10 \text{ kg}$$

$$h = 5 \text{ m}$$

$$P.E = mgh$$

$$\begin{array}{r} 50 \times \\ 9.8 \\ \hline 490 \\ 450 \times \\ \hline 490.0 \end{array}$$

$$R = 10 \text{ cm}$$

$$\frac{1.5}{3 \times 10^{-3}}$$

$$f = \frac{R}{2} = 5 \text{ cm}$$

$$I = 300 \text{ mA}$$

$$V = 1.5 \text{ V}$$

$$\begin{array}{l} V = IR \\ R = \frac{V}{I} \end{array}$$

$$V = IR$$

$$R = \frac{V}{I}$$

$$= \frac{1.5}{3 \times 10^{-3} \times 10^{-3}}$$

413  
50

## Screening Test for the post of Trained Graduate Teacher (TGT)

Name: Saravallah

Father name: Abdullah

- ✓ 1. Which of the following is the smallest prefix?  
 (a) atto      (b) pico      (c) nano      (d) femto
- ✓ 2. A body in equilibrium must not be  
 (a) at rest       (b) moving       (c) rotating       (d) accelerating
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 (a) 10 J       (b) 20 J       (c) 50 J       (d) 490 J

$$F_c = \frac{mv^2}{r}$$

$$F_c = \frac{m(2v)^2}{r}$$

$$4 \frac{mv^2}{r}$$

$$a = 0.3$$

$$t = 3s$$

$$a = \frac{v}{t}$$

$$0.3 \times \frac{3}{1}$$

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 (a) mass (b) spring constant  amplitude of vibrations (d) All  
 of the above affect the period
- ✓ 22. An echo occurs when a sound wave is  
 (a) absorbed (b) transmitted (c) refracted  reflected
- ✓ 23. Which of the following cannot transmit sound  
 (a) solid (b) liquid (c) gas  vacuum
- X 24. The focal length of convex mirror with radius of curvature 10 cm is  
 (a) +10 cm (b) +5 cm  -10 cm (d) -5 cm
- ✓ 25. The human eye forms the image of an object at its  
 (a) Iris  retina (c) pupil (d) cornea
- ✓ 26. The value of coulomb constant (K) depends on  
 (a) Value of charges  material medium (c) separation between charges  
 (d) all of these

- ✓ 27. A capacitor 'C' has charge 'Q', the actual charges on the plates are  
 (a) Q, Q (b) Q, 0 (c)  Q, -Q (d) Q/2, -Q/2
- X 28. The resistance of a wire will decrease by increasing  
 (a) temperature (b) length (c) diameter (d)  both a & b
- ✓ 29. Two resistance of  $1\ \Omega$  are connected in parallel, the equivalent resistance is  
 (a)  $2\ \Omega$  (b)  $1.5\ \Omega$  (c)  $1\ \Omega$  (d)   $0.5\ \Omega$
- ✓ 30. Slip rings are a part of  
 (a) DC motor magnet (b)  AC generator (c) transformer (d)
- ✓ 31. A step-up transformer increases  
 (a) power (b) energy (c)  voltage (d) current
- ✓ 32. The unit of inductance, Henry, is equivalent to  
 Vs/A (b) VA/m (c) As/V (d) V/A
- ✓ 33. If the magnetic field is applied parallel to the direction of electron beam, the electron will  
 (a) Speed up (b) slow down (c) deflect (d)  not change its state
- ✓ 34. If the electric field is applied to the direction of electron beam, the electron will  
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- X 35. The Boolean equation for NAND gate is  
 (a)  $X=AD$  (b)  $X=A+B$  (c)  $X=\overline{AB}$  (d)   $X=\overline{A+B}$
- ✓ 36. The phenomenon of total internal reflection is used in the transmission of signal through  
 (a) Electric wires (b)  optical fiber (c) electromagnetic waves (d) radio
- ✓ 37. Telephone transmission is the example of transmission of signals through  
 (a) Electric wires (b) optical fiber (c) electromagnetic waves (d)  all a, b & c
- ✓ 38. What type of nucleus decay leaves the number of protons and neutrons unchanged?  
 (a) Alpha decay (b) Beta decay (c)  Gamma decay (d) both a & b
- ✓ 39. Origin of energy from the Sun and Stars is  
 (a) fission (b)  fusion (c) carbon dating (d) radioactivity

- ✓ 40. If the distance between two charged particles is halved, the Coulomb force between the two charge particles become  
 (a) half (b) one quarter (c) double  (d) four times
- ✓ 41. A convex lens with focal length 8.00 cm has the power of the lens  
 (a) 2.05 D (b) 4.00 D  (c) 12.5 D (d) 16.0 D
- ✓ 42. The loudness of a sound is most closely related to its  
 (a) frequency (b) period (c) wavelength  (d) amplitude
- X 43. If the pendulum completes exactly 12 cycles in 2.0 min, the frequency of the pendulum is  
 (a) 0.10 Hz  (b) 0.17 Hz (c) 6.0 Hz (d) 10.0 Hz
- ✓ 44. An object at Earth and taken to Moon should have  
 (a) Same mass/more weight (b) less mass/less weight (c) same mass/same weight  (d) same mass/less weight
- ✓ 45. The shortest distance between two couple forces is  
 (a) moment arm  (b) couple arm (c) radius (d) double moment
- ✓ 46. The unit used for pressure in weather maps is  
 (a) Atm (b) Pa  (c) bar (d) Nm<sup>-2</sup>
- ✓ 47. If the string of the pendulum is shortened to half its original length, then the frequency will  
 (a) Increase by a factor of  $\sqrt{2}$  (b) decrease by a factor of  $\sqrt{2}$  (c) increase by a factor of  $\frac{1}{\sqrt{2}}$  (d) decrease by a factor of  $\frac{1}{\sqrt{2}}$
- X 48. Cytoscope is an instrument used to diagnose  
 (a) blood  (b) eyes (c) stomach (d) bladder
- ✓ 49. How much work must be done to increase the potential of a charge  $2.5 \times 10^{-7}$  C by 100 V?  
 (a)  $1.5 \times 10^{-3}$   (b)  $2.5 \times 10^{-5}$  (c)  $3.5 \times 10^{-6}$  (d)  $4.5 \times 10^{-7}$
- ✓ 50. A small flashlight bulb draws 300 mA from its 1.5 V battery, the resistance of the bulb is  
 (a) 3  $\Omega$   (b) 5  $\Omega$  (c) 10  $\Omega$  (d) 15  $\Omega$

$$f = \frac{12}{2 \times 60}$$

$$f = \frac{12}{120}$$

$$V = \frac{W}{q}$$

$$100 \times 2.5 \times 10^{-7} = W$$

$$\frac{1.5 \times 10^3}{1.5 \times 1000} = \frac{1.5 \times 10^3}{1500}$$

$$f = \frac{1}{2\pi} \sqrt{\frac{g}{L}}$$

$$f = \frac{1}{2\pi} \sqrt{\frac{g}{\frac{L}{2}}}$$

$$f = \sqrt{2} \frac{1}{2\pi} \sqrt{\frac{g}{L}}$$

$$\frac{1.5}{0.3}$$

$$I = 300 \times 10^{-3} \text{ A}$$

$$V = 1.5 \text{ V}$$

$$V = IR$$

$$\frac{1.5 \text{ V}}{300 \times 10^{-3}} = R$$

$$a = 0.3 \text{ m/s}^2$$

$$t =$$



37  
50

ATTA

0313-9144199

# Screening Test for the post of Trained Graduate Teacher (TGT)

Name: Ata Ullah

Father name: Munilaz Khan

- ✓ 1. Which of the following is the smallest prefix?  
(a) atto (b) pico (c) nano (d) femto
- ✓ 2. A body in equilibrium must not be  
(a) at rest (b) moving (c) rotating (d) accelerating
- ✓ 3. The slope of distance-time graph represents  
(a) acceleration (b) change in acceleration (c) speed (d) distance
- ✓ 4. A bike begins to accelerate at a constant  $0.3 \text{ m/s}^2$  for 3s, what is its change in velocity?  
(a) 0.9 m/s (b) 1.5 m/s (c) 1.95 m/s (d) 2.4 m/s
- ✓ 5. KITAB UL MANAZIR is the name of book written by  
(a) Yaqub Kindi (b) Ibnal Haitham (c) Al Beruni (d) None
- X 6. How many times the centripetal force will increase if the mass of a body moving with uniform speed in a circle is doubled?  
(a) two times (b) three times (c) four times (d) six times
- ✓ 7. Which of the following forces can act as centripetal force:  
(a) tension (b) friction (c) gravitational force (d) all of these
- ✓ 8. Conventionally anti-clock wise torque is taken as  
(a) negative (b) positive (c) parallel (d) zero
- ✓ 9. The angle at which 'x' and 'y' components of force are equal is  
(a)  $0^\circ$  (b)  $30^\circ$  (c)  $45^\circ$  (d)  $60^\circ$
- X 10. The S.I unit for gravitational constant 'G' is  
(a)  $\text{Nkg}^2$  (b)  $\text{Nm}^2\text{Kg}^{-2}$  (c)  $\text{Nm}^2\text{Kg}^2$  (d)  $\text{Nm}^{-2}\text{Kg}^2$
- ✓ 11. When a body is moved from sea level to the top of a mountain, there is change in the body's  
(a) mass (b) weight (c) both mass & weight (d) none
- ✓ 12. An object of mass 10 kg is lifted vertically through a height of 5 m, the gravitational potential energy gained by the object is  
(a) 10 J (b) 20 J (c) 50 J (d) 490 J

$a = 0.3$   
 $t = 3 \text{ sec}$   
 $v = at$   
 $= 0.3 \times 3$   
 $= 0.9$

$\Delta v = a \times t$   
 $\Delta v = 0.3 \times 3$   
 $= 0.9$

$m = 10$   
 $h = 5 \text{ m}$   
 $P.E = mgh$   
 $= 10 \times 5 \times 10$   
 $= 100 \times 5$   
 $= 500$



$F = G \frac{m_1 m_2}{r^2}$   
 $G = \frac{F r^2}{m_1 m_2} = \frac{\text{Nm}^2}{\text{kg}^2}$

$F_c = \frac{mv^2}{r}$   
 $= m \frac{(2v)^2}{r}$   
 $= 4 \frac{mv^2}{r}$

- ✓ 13. Which material is more elastic  
 (a) wood (b) rubber (c) steel (d) plastic
- ✗ 14. The S.I unit of strain is  
 (a)  $\text{Kgm}^{-3}$  (b) Pa (c)  $\text{Nm}^{-2}$  (d) none
- ✓ 15. Liquid and gases are collectively categorized as  
 (a) Liquid (b) Pascals (c) Fluids (d) None
- ✓ 16. When water at  $0^\circ\text{C}$  is heated, it contracts till temperature reaches  
 (a)  $1^\circ\text{C}$  (b)  $4^\circ\text{C}$  (c)  $100^\circ\text{C}$  (d)  $1000^\circ\text{C}$
- ✓ 17. The amount of heat required to raise the temperature of 1 kg of water by 1 k is  
 (a) 100 J (b) 200 J (c) 310 J (d) 4190 J
- ✗ 18. The transfer of heat by convection is smallest in  
 (a) Solids (b) Liquids (c) Gases (d) None
- ✓ 19. Which of the following has the highest thermal conductivity  
 (a) Wood (b) water (c) wool (d) air
- ✓ 20. A wave transports  
 (a) Energy but no matter (b) matter but no energy (c) both energy & matter  
 (d) none
- ✗ 21. Which of the following does not affect the period of the mass-spring system  
 (a) mass (b) spring constant (c) amplitude of vibrations (d) All  
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 (a) absorbed (b) transmitted (c) refracted (d) reflected
- ✓ 23. Which of the following cannot transmit sound  
 (a) solid (b) liquid (c) gas (d) vacuum
- ✗ 24. The focal length of convex mirror with radius of curvature 10 cm is  
 (a) +10 cm (b) +5 cm (c) -10 cm (d) -5 cm
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 (a) Iris (b) retina (c) pupil (d) cornea
- ✓ 26. The value of coulomb constant (K) depends on  
 (a) Value of charges (b) material medium (c) separation between charges  
 (d) all of these

$$F/L = \sigma/n$$

$$T = 2\pi \sqrt{\frac{m}{k}}$$

- ✓ 27. A capacitor 'C' has charge 'Q', the actual charges on the plates are  
 (a) Q, Q (b) Q, 0 (c) Q, -Q (d) Q/2, -Q/2
- ✓ 28. The resistance of a wire will decrease by increasing  
 (a) temperature (b) length (c) diameter (d) both a & b  
 $R = \frac{\rho L}{A}$
- ✓ 29. Two resistance of  $1 \Omega$  are connected in parallel, the equivalent resistance is  
 (a)  $2 \Omega$  (b)  $1.5 \Omega$  (c)  $1 \Omega$  (d)  $0.5 \Omega$   

- X 30. Slip rings are a part of  
 (a) DC motor magnet (b) AC generator (c) transformer (d)  $\frac{R_1 R_2}{R_1 + R_2}$   
 $\frac{1}{R} = \frac{1}{R_1} + \frac{1}{R_2}$   
 $V = IR$   
 $I = \frac{V}{R}$   
 $R_{eq} = R_1 + R_2$   
 $= 1 + 1$
- ✓ 31. A step-up transformer increases  
 (a) power (b) energy (c) voltage (d) current
- ✓ 32. The unit of inductance, Henry, is equivalent to  
 (a) Vs/A (b) VA/m (c) As/V (d) V/A
- ✓ 33. If the magnetic field is applied parallel to the direction of electron beam, the electron will  
 (a) Speed up (b) slow down (c) deflect (d) not change its state  

- X 34. If the electric field is applied to the direction of electron beam, the electron will  
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- ✓ 35. The Boolean equation for NAND gate is  
 (a)  $X=AD$  (b)  $X=A+B$  (c)  $X=\overline{AB}$  (d)  $X=\overline{A+B}$
- ✓ 36. The phenomenon of total internal reflection is used in the transmission of signal through  
 (a) Electric wires (b) optical fiber (c) electromagnetic waves (d) radio
- X 37. Telephone transmission is the example of transmission of signals through  
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 (a) 2.05 D (b) 4.00 D (c) 12.5 D (d) 16.0 D
- ✓ 42. The loudness of a sound is most closely related to its  
 (a) frequency (b) period (c) wavelength (d) amplitude
- X 43. If the pendulum completes exactly 12 cycles in 2.0 min, the frequency of the pendulum is  
 (a) 0.10 Hz (b) 0.17 Hz (c) 6.0 Hz (d) 10.0 Hz  $f = \frac{N}{T} = \frac{12}{60} = \frac{2}{10} = 0.2$
- ✓ 44. An object at Earth and taken to Moon should have  
 (a) Same mass/more weight (b) less mass/less weight (c) same mass/same weight (d) same mass/less weight
- ✓ 45. The shortest distance between two couple forces is  
 (a) moment arm (b) couple arm (c) radius (d) double moment
- ✓ 46. The unit used for pressure in weather maps is  
 (a) Atm (b) Pa (c) bar (d)  $\text{Nm}^{-2}$
- X 47. If the string of the pendulum is shortened to half its original length, then the frequency will  
 (a) Increase by a factor of  $\sqrt{2}$  (b) decrease by a factor of  $\sqrt{2}$  (c) increase by a factor of  $\frac{1}{\sqrt{2}}$  (d) decrease by a factor of  $\frac{1}{\sqrt{2}}$

48. Cytoscope is an instrument used to diagnose  
 (a) blood (b) eyes (c) stomach (d) bladder
49. How much work must be done to increase the potential of a charge  $2.5 \times 10^{-7}$  C by 100 V?  
 (a)  $1.5 \times 10^{-3}$  (b)  $2.5 \times 10^{-5}$  (c)  $3.5 \times 10^{-6}$  (d)  $4.5 \times 10^{-7}$
50. A small flashlight bulb draws 300 mA from its 1.5 V battery, the resistance of the bulb is  
 (a) 3  $\Omega$  (b) 5  $\Omega$  (c) 10  $\Omega$  (d) 15  $\Omega$

$I = 300 \times 10^{-3} \text{ A}$   
 $V = 1.5 \text{ V}$   
 $R = \frac{V}{I} = \frac{1.5}{300 \times 10^{-3}} = \frac{1.5}{0.3} = 5 \Omega$

$f = \frac{1}{2\pi} \sqrt{\frac{g}{L}}$

$F = k \frac{q_1 q_2}{r^2}$

$f = \frac{1}{2\pi} \sqrt{\frac{g}{L}}$   
 $\frac{1}{2\pi} \sqrt{\frac{g}{L/2}} = \frac{1}{2\pi} \sqrt{\frac{g}{L} \cdot 2}$   
 $f = \sqrt{2} \cdot \frac{1}{2\pi} \sqrt{\frac{g}{L}}$   
 $f = \sqrt{2} \cdot f_{\text{original}}$   
 $R = \frac{V}{I} = \frac{1.5}{0.3} = 5 \Omega$

$\frac{Q}{V} = \frac{2.5 \times 10^{-7}}{100} = 2.5 \times 10^{-9} \text{ C}$

$F = k \frac{q_1 q_2}{r^2}$   
 $I = 300 \times 10^{-3} \text{ A}$   
 $V = 1.5 \text{ V}$   
 $R = \frac{V}{I} = \frac{1.5}{0.3} = 5 \Omega$

$$R = \frac{V}{I}$$

$$R = \frac{1.5}{300 \times 10^{-3}}$$

$$= \frac{1.5 \times 1000}{300}$$

$$= \frac{1500}{300}$$

$$\frac{1.5}{300 \times 10^{-3}}$$

$$\frac{150 \times 1000}{3000}$$

$$\frac{1500}{300}$$

13  
50

## Screening Test for the post of Trained Graduate Teacher (TGT)

Name: Hina Iqbal

Father name: Muhammad Iqbal

1. Which of the following is the smallest prefix?  
 (a) atto                       (b) pico                      (c) nano                      (d) femto
2. A body in equilibrium must not be  
 (a) at rest                       (b) moving                      (c) rotating                      (d) accelerating
3. The slope of distance-time graph represents  
 (a) acceleration                      (b) change in acceleration                      (c) speed                       (d) distance
4. A bike begins to accelerate at a constant  $0.3 \text{ m/s}^2$  for 3s, what is its change in velocity?  
 (a) 0.9 m/s                       (b) 1.5 m/s                      (c) 1.95 m/s                      (d) 2.4 m/s
5. KITAB UL MANAZIR is the name of book written by  
 (a)  Yaqub Kindi                      (b) Ibnal Haitham                      (c) Al Beruni                      (d) None
6. How many times the centripetal force will increase if the mass of a body moving with uniform speed in a circle is doubled?  
 (a) two times                      (b) three times                       (c) four times                      (d) six times
7. Which of the following forces can act as centripetal force:  
 (a) tension                      (b) friction                       (c) gravitational force                      (d) all of these
8. Conventionally anti-clock wise torque is taken as  
 (a)  negative                      (b) positive                      (c) parallel                      (d) zero
9. The angle at which 'x' and 'y' components of force are equal is  
 (a)  $0^\circ$                       (b)  $30^\circ$                        (c)  $45^\circ$                       (d)  $60^\circ$
10. The S.I unit for gravitational constant 'G' is  
 (a)  $\text{NKg}^2$                       (b)  $\text{Nm}^2\text{Kg}^{-2}$                       (c)  $\text{Nm}^2\text{Kg}^2$                        (d)  $\text{Nm}^{-2}\text{Kg}^2$
11. When a body is moved from sea level to the top of a mountain, there is change in the body's  
 (a) mass                      (b) weight                       (c) both mass & weight                      (d) none
12. An object of mass 10 kg is lifted vertically through a height of 5 m, the gravitational potential energy gained by the object is  
 (a) 10 J                      (b) 20 J                       (c) 50 J                      (d) 490 J

$a = \frac{0.3 \text{ m/s}^2}{3 \text{ s}}$   
 $v = \frac{0.3 \times 10}{3} = \frac{3}{3} = 1$   
 $v = \frac{9.8 \times 3}{3} = 9.8$   
 $\frac{30}{30} = 1$

$m = 10 \text{ kg}$   
 $h = 5 \text{ m}$

$P.E = mgh$   
 $10 \times 10 \times 5$

$\frac{1000}{1000} = 1$   
 $\frac{500}{500} = 1$

$P.E = mgh$   
 $10 \times 9.8 \times 5$

$\frac{490}{490} = 1$   
 $\frac{500}{500} = 1$   
 $\frac{9.5}{9.5} = 1$

13. Which material is more elastic  
 (a) wood (b)  rubber (c) steel (d) plastic
14. The S.I unit of strain is  
 (a)  $\text{Kgm}^{-3}$  (b) Pa (c)   $\text{Nm}^{-2}$  (d) none
15. Liquid and gases are collectively categorized as  
 (a) Liquid (b) Pascals (c)  Fluids (d) None
16. When water at  $0^\circ\text{C}$  is heated, it contracts till temperature reaches  
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17. The amount of heat required to raise the temperature of 1 kg of water by 1 k is  
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 (a) Iris (b) retina (c) pupil (d)  cornea
26. The value of coulomb constant (K) depends on  
 (a) Value of charges (b) material medium (c)  separation between charges  
 (d) all of these

$$\frac{F}{m} = \frac{N}{m}$$

$$\text{Nm}^{-2}$$

$$m = 1 \text{ kg}$$

$$1 \text{ N}$$

$$1000 \times 1$$

$f = 10 \text{ cm}$

$$F_c = k \frac{m_1 m_2}{r^2}$$

✓ 27. A capacitor 'C' has charge 'Q', the actual charges on the plates are

- (a) Q, Q      (b) Q, 0      (c) Q, -Q      (d) Q/2, -Q/2

✓ 28. The resistance of a wire will decrease by increasing

- (a) temperature      (b) length      (c) diameter      (d) both a & b

X 29. Two resistance of  $1\ \Omega$  are connected in parallel, the equivalent resistance is

- (a)  $2\ \Omega$       (b)  $1.5\ \Omega$       (c)  $1\ \Omega$       (d)  $0.5\ \Omega$

X 30. Slip rings are a part of

- (a) DC motor magnet      (b) AC generator      (c) transformer      (d)

✓ 31. A step-up transformer increases

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✓ 32. The unit of inductance, Henry, is equivalent to

- (a) Vs/A      (b) VA/m      (c) As/V      (d) V/A

X 33. If the magnetic field is applied parallel to the direction of electron beam, the electron will

- (a) Speed up      (b) slow down      (c) deflect      (d) not change its state

X 34. If the electric field is applied to the direction of electron beam, the electron will

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✓ 35. The Boolean equation for NAND gate is

- (a)  $X=AB$       (b)  $X=A+B$       (c)  $X=\overline{AB}$       (d)  $X=\overline{A+B}$

X 36. The phenomenon of total internal reflection is used in the transmission of signal through

- (a) Electric wires      (b) optical fiber      (c) electromagnetic waves      (d) radio

X 37. Telephone transmission is the example of transmission of signals through

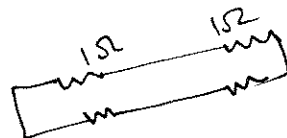
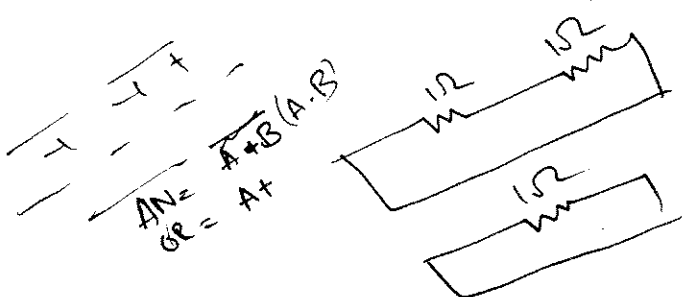
- (a) Electric wires      (b) optical fiber      (c) electromagnetic waves      (d) all a, b & c

X 38. What type of nucleus decay leaves the number of protons and neutrons unchanged?

- (a) Alpha decay      (b) Beta decay      (c) Gamma decay      (d) both a & b

X 39. Origin of energy from the Sun and Stars is

- (a) fission      (b) fusion      (c) carbon dating      (d) radioactivity



$$C = \frac{Q}{2}$$

$$\frac{V}{V_2}$$

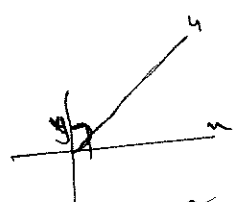
P/6  
P/510



- 40. If the distance between two charged particles is halved, the Coulomb force between the two charge particles become  
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- 41. A convex lens with focal length 8.00 cm has the power of the lens  
 (a) 2.05 D (b) 4.00 D (c) 12.5 D (d) 16.0 D
- 42. The loudness of a sound is most closely related to its  
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 (a) moment arm (b) couple arm (c) radius (d) double moment
- 46. The unit used for pressure in weather maps is  
 (a) Atm (b) Pa (c) bar (d)  $Nm^{-2}$
- 47. If the string of the pendulum is shortened to half its original length, then the frequency will  
 (a) Increase by a factor of  $\sqrt{2}$  (b) decrease by a factor of  $\sqrt{2}$  (c) increase by a factor of  $\frac{1}{\sqrt{2}}$  (d) decrease by a factor of  $\frac{1}{\sqrt{2}}$
- 48. Cytoscope is an instrument used to diagnose  
 (a) blood (b) eyes (c) stomach (d) bladder
- 49. How much work must be done to increase the potential of a charge  $2.5 \times 10^{-7} C$  by 100 V?  
 (a)  $1.5 \times 10^{-3}$  (b)  $2.5 \times 10^{-5}$  (c)  $3.5 \times 10^{-6}$  (d)  $4.5 \times 10^{-7}$
- 50. A small flashlight bulb draws 300 mA from its 1.5 V battery, the resistance of the bulb is  
 (a)  $3 \Omega$  (b)  $5 \Omega$  (c)  $10 \Omega$  (d)  $15 \Omega$

$\frac{12}{20} \times 10$   
 $\frac{12}{20} \times 20$   
 $\frac{12}{20} \times 10$

$f_2 = \frac{12}{2.0 \times 60 \times 60}$   
 $\frac{12}{2 \times 3600}$   
 $\frac{12}{7200}$   
 $\frac{12}{7200}$



$C \propto \frac{1}{r^2}$   
 $C \propto \frac{1}{r^2}$   
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 $C \propto \frac{1}{r^2}$

$\frac{2.5 \times 10^{-7}}{100} + R = \frac{20}{300}$   
 $R = \frac{20}{300} - \frac{2.5 \times 10^{-7}}{100}$   
 $R = \frac{20}{300}$   
 $R = \frac{20}{300}$

$a = 0.3 m/s^2$   
 $s = \dots$   
 $v = \frac{s}{t}$   
 $\frac{0.3 \times 1000}{3600 \times 5}$   
 $\frac{300}{1800}$   
 $\frac{15}{900}$   
 $\frac{15}{900}$