
Summer Holiday Homework
(2024-25)
CLASS –XII
NON-MEDICAL

*Sun shines on your skin and mine
until it sets way after nine.
Memories made with a cold drink in hand.
Moments to cherish with feet in the sand.
Everyone laughing, smiles on every face.
Remember the moments, those were the days.
Turn up the music, sing it out loud.
Indigo skies, no sign of a cloud.
Mutter the words that no one will know.
Everlasting memories; where does time go?*

ENJOY YOUR SUMMER VACATIONS!!

HOLIDAY HOMEWORK (2024-25)
CLASS –XII

“Genius is one percent inspiration and ninety-nine percent perspiration. As a result, a genius is often a talented person who has simply done all of his/her work on time”.

Dear parent

As we all know that every year we have a summer break in our school, this is a time when every kid plans a holiday with their parents to visit their grandparents or a new city or country. Even though there are many good things about the holidays, it always comes with holiday homework. It is the task that is assigned to students to be completed during the holiday. This is intended to improve the skills of students and enhance their capabilities. Keeping this in mind, holiday home work has been prepared so that along with the fun, continuity with academics is also maintained.

Note: Kindly go through the instructions carefully and do the needful accordingly.

- Entire Homework is to be done in the concerned subject notebook.
- Entire holiday homework (Subject wise) would be **evaluated for Term-I Internal Assessment out of 10 marks**
- Well labelled Holiday homework to be submitted to the concerned Subject Teacher on **Wednesday July 05, 2024.**

Wishing you all a very Happy Summer Break!!



Chemistry

1. Complete your investigatory project (hand written) which you have been already allotted by your subject teacher.
2. Make a list of all the formulae related to Chapter 1 (Solutions) Chapter 2 (Electrochemistry) Chapter 3 (chemical kinetics) in your notebook.
3. Solve all the problems from NCERT Exemplar book (Chapter 1,2,3,4,5)
4. Make a working model on the topic related to the following-
 - a) 1-15 Roll No. will do working model on Electrochemistry
 - b) 16-31 Roll No. will do working model on Purification on Water

ENGLISH

1. PROJECT WORK

The project consists of 10 MARKS out of which, 5 MARKS will be allotted for the PROJECT FILE and the remaining 5 MARKS for the VIVA based on the file.

2. CONTENT OF THE PROJECT FILE:

The project file should include the following:

- Cover page, with the title of the project, school details and details of the student
- Certificate of Completion under the guidance of the teacher
- Objectives of the topic
- Matter should be written in 300-500 words.
- Student reflections (the new learning experience/outcome achieved after completing the project)
- Photographs that capture positive learning experience of the students (collages/pics from various online sources) can be pasted.
- List of Resources/Bibliography (Last page of the project file)

3. INSTRUCTIONS:

- Listen to podcasts, documentaries, interviews etc. on the given topics.
- Do a thorough research on the topic assigned.
- Prepare an essay in about 300-500 words describing the topic/issue/ giving your own opinion/ suggestions/measures/ viewpoints/its impact on people/your learning experience.
- The project should be neat, legible, with an emphasis on quality of content, accuracy of information, creative expression, proper sequencing and relevance as per the assigned topic.
- Use colored practical sheets.
- Plagiarism is strictly prohibited.

❖ Prepare project file on the given topics.

1. CHILD LABOUR IN INDIA

“Child labour perpetuates poverty, unemployment, illiteracy, population growth and other social problems.” Kailash Satyarthi

You have studied the lesson ‘Lost Spring’ by Anees Jung. It deals with child labour in India. Based on your understanding of the lesson and the problem it mentions, make a project titled ‘CHILD LABOUR IN INDIA’

Include the following sub-headings:

- Causes of child labour
- Effects on the social environment
- Laws on child labour
- National child labour policies & schemes
- Prevention and elimination of child labour
- Industries employing children- Make a case study (300-500 words) on any 1 industry that employs child labour. Furnish all relevant details and statistics. Attach 3-4 pictures.

2. SAY NO TO WAR

“An eye for an eye only ends up making the whole world blind.” Mahatma Gandhi

You have studied the lesson ‘The Last Lesson’ by Alphonse Daudet. It deals with war and the long-lasting effects it has on the society at large. Based on your understanding of the lesson and the problem it mentions, make a project titled ‘SAY NO TO WAR’

Include the following sub-headings:

- Definition of war
- Effects on social, economic environment
- Cost, in terms of money and lives
- Important international treaties
- Prevention and elimination of wars
- Any 1 war – Make a case study (800 - 1000 words) and furnish all details and statistics. Attach 3-4 pictures.

MATHEMATICS

1. A relation R in a set A is called _____, if $(a_1, a_2) \in R$ implies $(a_2, a_1) \in R$, for all $a_1, a_2 \in A$.

- (a) symmetric
- (b) transitive
- (c) equivalence
- (d) non-symmetric

2. Let R be a relation on the set N of natural numbers defined by nRm if n divides m . Then R is
- Reflexive and symmetric
 - Transitive and symmetric
 - Equivalence
 - Reflexive, transitive but not symmetric
3. The maximum number of equivalence relations on the set $A = \{1, 2, 3\}$ are
- 1
 - 2
 - 3
 - 5
4. If set A contains 5 elements and the set B contains 6 elements, then the number of one-one and onto mappings from A to B is
- 720
 - 120
 - 0
 - none of these
5. Which of the following is the principal value of $\sin^{-1}(1)$?
- $\pi/2$
 - $\pi/4$
 - π
 - 0
6. The domain of the function $f(x) = \sin^{-1}(x)$ is:
- $[-1, 1]$
 - $(-\infty, \infty)$
 - $[0, 1]$
 - $[0, \pi/2]$
7. The value of $\tan^{-1}(\sqrt{3})$ is:
- $\pi/4$
 - $\pi/3$
 - $\pi/6$
 - $2\pi/3$
8. The value of $\cos(\sin^{-1}(1/2))$ is:
- $\sqrt{2}/2$
 - $\sqrt{3}/2$
 - $1/2$
 - $2/\sqrt{3}$
9. If $A = [5 \ 6 \ 7]$ and $B = [2 \ 7 \ 1]$, then $A + B = ?$

- (a) [7 12 8]
- (b) [7 13 8]
- (c) [3 13 6]
- (d) [7 13 6]

10. If A is a square matrix such that $A^2 = A$, then $(I - A)^3 + A$ is equal to

- (a) I
- (b) 0
- (c) I - A
- (d) I + A

11. If A and B are two matrices of the order $3 \times m$ and $3 \times n$, respectively, and $m = n$, then the order of matrix $(5A - 2B)$ is

- (a) $m \times 3$
- (b) 3×3
- (c) $m \times n$
- (d) $3 \times n$

12. The number of all possible matrices of order 3×3 with each entry 0 or 1 is

- (a) 27
- (b) 18
- (c) 81
- (d) 512

13. If A and B are symmetric matrices of the same order, then $(AB' - BA')$ is a

- (a) Skew symmetric matrix
- (b) Null matrix
- (c) Symmetric matrix
- (d) None of these

14. If A is a square matrix of order 3 and $|A| = 5$, then the value of $|2A'|$ is

- (a) -10
- (b) 10
- (c) -40
- (d) 40

15. The area of a triangle with vertices $(-3, 0)$, $(3, 0)$ and $(0, k)$ is 9 sq. units. The value of k will be

- (a) 9
- (b) 3
- (c) -9
- (d) 6

16. If A and B are invertible square matrices of size $n \times n$, then which of the following is not true?

- (a) $\det(AB) = \det(A)\det(B)$
 (b) $\det(kA) = kn \det(A)$
 (c) $\det(A+B) = \det(A) + \det(B)$
 (d) $\det(AT) = 1/\det(A-1)$

17. The system of linear equations $x+y+z=2$, $2x+y-2=3$, $3x+2y+kz=4$ has a unique solution, if k is not equal to

- (a) 4
 (b) -4
 (c) 0
 (d) 3

18. What is the mathematical expression for the definition of continuity?

- a) $\lim_{x \rightarrow c} f(x) = f(c) \forall c \in a$
 b) $\lim_{x \rightarrow c} f(x) = f(c) \forall c \in (a,b)$
 c) $\lim_{x \rightarrow c} f(x) = f(c) \forall c \in b$
 d) $\lim_{x \rightarrow a} f(x) = f(c) \forall c \in (a,b)$

19. The derivative of $f(\tan x)$ w.r.t. $g(\sec x)$ at $x = \pi/4$, where $f'(1) = 2$ and $g'(\sqrt{2}) = 4$, is

- (a) $12\sqrt{12}$
 (b) $\sqrt{2}$
 (c) 1
 (d) 0

20) If $y = ax^2+b$, then dy/dx at $x = 2$ is equal to

- (A) $2a$
 (B) $3a$
 (C) $4a$
 (D) None of these

21. Check whether the relation R in the set $\{1,2,3\}$ given by $R=\{(1,2), (2,1)\}$ is reflexive, symmetric & transitive.

22. Show that $f : R \rightarrow R$ defined as $f(x) = \cos x$ is neither one-one nor onto.

23. Let $f: X \rightarrow Y$ be a function. Define a relation R in X given by $R=\{(a, b): f(a) = f(b)\}$. Examine whether R is an equivalence relation or not.

24. Let $A = \{1,2,3, \dots, 9\}$ and R be the relation in $A \times A$ defined by $(a, b) R (c, d)$ iff

$a - c = b - d$ for all $a, b, c, d \in A$. Prove that R is an equivalence relation. Also obtain the equivalence class $[(2,5)]$

25. Consider a function $f : R_+ \rightarrow [15, \infty)$ given by $f(x) = 4x^2 + 12x + 15$. Show that f is bijective function. If R is an equivalence relation in set A , then show that R^{-1} is also equivalence in A .

26. Prove that the relation R on $N \times N$ defined by $((a,b), (c,d)) \in R$ iff $a+d=b+c$ is an equivalence relation.

27. Let R be a relation on the set $A = \mathbb{N} \times \mathbb{N}$, where \mathbb{N} is the set of natural numbers, defined by $(x, y) R (u, v)$ if and only if $xv = yu$. Show that R is an equivalence relation.
28. Show that the relation R in the set $\mathbb{N} \times \mathbb{N}$, defined by $(a, b) R (c, d)$ iff $a^2 + d^2 = b^2 + c^2 \forall a, b, c, d \in \mathbb{N}$, is an equivalence relation.
29. Let $f : \mathbb{W} \rightarrow \mathbb{W}$ defined as $f(x) = \begin{cases} x + 1 & \text{if } x \text{ is even} \\ x - 1 & \text{if } x \text{ is odd} \end{cases}$ show that f bijective.
30. Prove that $f : \mathbb{R}^+ \rightarrow (-5, \infty)$ given by $f(x) = 9x^2 + 6x - 5$. Show that f is bijective.
31. Find the principal value of $\sin^{-1}\left(\frac{-\sqrt{3}}{2}\right) + \cos^{-1}\left(\frac{-1}{2}\right) + \tan^{-1}\left(\frac{-1}{\sqrt{3}}\right)$
32. If $\sin^{-1}x - \cos^{-1}x = 0$, find value of x
33. Evaluate : $\operatorname{cosec}^2(\cot^{-1}3)$
34. Evaluate : $\cot[\tan^{-1}x + \cot^{-1}x]$
35. Evaluate : $\cos^{-1}(\cos 350^\circ) - \sin^{-1}(\sin 350^\circ)$
36. Prove that : $3\sin^{-1}x = \sin^{-1}(3x - 4x^3), x \in \left[-\frac{1}{2}, \frac{1}{2}\right]$
37. Write $\tan^{-1}\left(\frac{\cos x - \sin x}{\cos x + \sin x}\right)$ in simplest form
38. Express $\sin^{-1}\left(\frac{2x}{1+x^2}\right)$ in simplest form
39. If $\tan^{-1}x + \tan^{-1}y = \frac{\pi}{4}$, $xy < 1$, then write the value of $x + y + xy$.
40. Prove that: $\tan\left\{\frac{1}{2}\cos^{-1}\frac{\sqrt{5}}{3}\right\} = \frac{3-\sqrt{5}}{2}$
41. If $(\tan^{-1}x)^2 + (\cot^{-1}x)^2 = \frac{5\pi^2}{8}$, then find x
42. Simplify $= \sin^{-1}\left[\frac{6x - 4\sqrt{1-4x^2}}{5}\right]$
43. What are the possible order of matrices if it has 15 element.
44. What is the value of x if the matrix $A = \begin{bmatrix} x & 2 \\ -2 & 0 \end{bmatrix}$ is skew symmetric matrix.
45. Find value of θ if $\begin{bmatrix} \cos\theta & -\sin\theta \\ \sin\theta & \cos\theta \end{bmatrix}$ is identity matrix.

Assertion and Reason

In the following questions, a statement of Assertion (A) is followed by a statement of Reason (R). Choose the correct answer out of the following choices.

- (a) Both (A) and (R) are true and (R) is the correct explanation of (A).
- (b) Both (A) and (R) are true but (R) is not the correct explanation of (A).
- (c) (A) is true but (R) is false.
- (d) (A) is false but (R) is true.

46. Assertion (A): The relation P on set X is a transitive relation.

Reason (R): The relation P has a subset of the form $\{(a, b), (b, c), (a, c)\}$, where $a, b, c \in X$.

47. Assertion (A): The maximum value of the function $f(x) = x^5$, $x \in [-1, 1]$, is attained at its critical point, $x = 0$.

Reason (R): The maximum of a function can only occur at points where the derivative is zero.

48. Assertion (A): The function f is not onto.

Reason (R): $3 \in \mathbb{R}$ (co-domain of f) has no preimage in the domain of f.

49. Assertion (A): The function $f(x) = |x - 6|(\cos x)$ is differentiable in $\mathbb{R} - \{6\}$.

Reason (R): If a function f is continuous at a point c, then it is also differentiable at that point.

50. Assertion (A): The relation P on set X is a transitive relation.

Reason (R): The relation P has a subset of the form $\{(a, b), (b, c), (a, c)\}$, where $a, b, c \in X$.

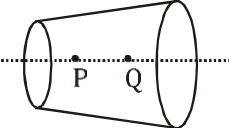
51. Assertion (A): The maximum value of the function $f(x) = x^5$, $x \in [-1, 1]$, is attained at its critical point, $x = 0$.

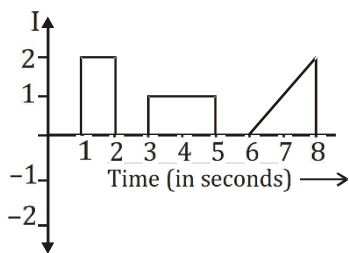
Reason (R): The maximum of a function can only occur at points where the derivative is zero.

52. Assertion (A): The function f is not onto.

Reason (R): $3 \in \mathbb{R}$ (co-domain of f) has no preimage in the domain of f.

ELECTRIC CURRENT & DRIFT VELOCITY

- If 10^6 electrons/s are flowing through an area of cross section of 10^{-4} m^2 then the current will be :-
 (1) $1.6 \times 10^{-7} \text{ A}$ (2) $1.6 \times 10^{-13} \text{ A}$
 (3) $1 \times 10^{-6} \text{ A}$ (4) $1 \times 10^2 \text{ A}$
- The current in a conductor varies with time t as $I = 2t + 3t^2 \text{ A}$ where I is amperes and t in seconds. Electric charge flowing through a section of the conductor during $t = 2 \text{ s}$ to $t = 3 \text{ s}$ is :-
 (1) 10 C (2) 24 C
 (3) 33 C (4) 44 C
- $10,000$ electrons are passing per minute through a tube of radius 1 cm . The resulting current is :
 (1) 10000 A (2) $0.25 \times 10^{-16} \text{ A}$
 (3) 10^{-9} A (4) $0.5 \times 10^{-19} \text{ A}$
- There are 8.4×10^{22} free electrons per cm^3 in copper. The current in the wire is 0.21 A ($e = 1.6 \times 10^{-19} \text{ C}$). Then the drifts velocity of electrons in a copper wire of 1 mm^2 cross section, will be :-
 (1) $2.12 \times 10^{-5} \text{ m/s}$ (2) $0.78 \times 10^{-5} \text{ m/s}$
 (3) $1.56 \times 10^{-5} \text{ m/s}$ (4) none of these
- There is a current of 40 amperes in a wire of 10^{-6} m^2 area of cross-section. If the number of free electrons per m^3 is 10^{29} , then the drift velocity will be
 (1) $1.25 \times 10^3 \text{ m/s}$ (2) $2.50 \times 10^{-3} \text{ m/s}$
 (3) $25.0 \times 10^{-3} \text{ m/s}$ (4) $250 \times 10^{-3} \text{ m/s}$
- S.I. unit of current is :-
 (1) C (2) A (3) A/s (4) N/s
- When no current flows through a conductor :-
 (1) the free electrons do not move
 (2) the average speed of a free electron over a large period of time is zero
 (3) the average velocity of a free electron over a large period of time is zero
 (4) the average of square of velocities of all the free electrons at an instant is zero
- The number of free electrons per 10 mm of an ordinary copper wire is about 2×10^{21} . The average drift speed of the electrons is 0.25 mm/s . The current flowing is :-
 (1) 0.8 A (2) 8 A (3) 80 A (4) 5 A
- In a Neon discharge tube $2.9 \times 10^{18} \text{ Ne}^+$ ions move to the right each second, while 1.2×10^{18} electrons move to the left per second; electron charge is $1.6 \times 10^{-19} \text{ C}$. The current in the discharge tube is :-
 (1) 1 A towards right
 (2) 0.66 A towards right
 (3) 0.66 A towards left
 (4) zero
- Two wires each of radius of cross section r but of different materials are connected together end to end (in series). If the densities of charge carriers in the two wires are in the ratio $1:4$, the drift velocity of electrons in the two wires will be in the ratio :
 (1) $1:2$ (2) $2:1$ (3) $4:1$ (4) $1:4$
- A current I flows through a uniform wire of diameter d when the electron drift velocity is v . The same current will flow through a wire of diameter $d/2$ made of the same material if the drift velocity of the electrons is
 (1) $v/4$ (2) $v/2$ (3) $2v$ (4) $4v$
- A wire has a non-uniform cross-section as shown in figure. A steady current flows through it. The drift speed of electrons at points P and Q is v_P and v_Q , then :-

 (1) $v_P = v_Q$
 (2) $v_P < v_Q$
 (3) $v_P > v_Q$
 (4) data is insufficient
- The plot represents the flow of current through a wire for different time intervals. The ratio of charges flowing through the wire corresponding to these time intervals is (see figure) :-



- (1) 2 : 1 : 2 (2) 1 : 3 : 3
(3) 1 : 1 : 1 (4) 2 : 3 : 4

OHM'S LAW & ELECTRICAL RESISTANCE

14. Three copper wires are there with lengths and cross-sectional areas as (ℓ, A) ; $(2\ell, \frac{A}{2})$ and $(\frac{\ell}{2}, 2A)$. Resistance :-

- (1) minimum for the wire of cross-sectional area $\frac{A}{2}$
(2) minimum for the wire of cross-sectional area A
(3) minimum for the wire of cross-sectional area 2A
(4) same for all the three cases.

15. A wire of uniform cross-section A, length ℓ and resistance R is bent into a complete circle; the resistance between any two of diametrically opposite points will be :-

- (1) $\frac{R}{2}$ (2) $\frac{R}{4}$ (3) $\frac{R}{8}$ (4) 4R

16. The electric resistance of a certain wire of iron is R. If its length and radius both are doubled, then :-

- (1) the resistance will be halved and the specific resistance will remain unchanged
(2) the resistance will be halved and the specific resistance will be doubled
(3) the resistance and the specific resistance, will both remain unchanged
(4) the resistance will be doubled and the specific resistance will be halved.

17. When a piece of aluminium wire of finite length is drawn to reduce its diameter to half its original value, its resistance will become :-

- (1) two times (2) four times
(3) eight times (4) sixteen times

18. As the temperature of a metallic resistor is increased, the product of resistivity and conductivity :-

- (1) increases
(2) decreases
(3) may increase or decrease
(4) remains constant.

19. If a wire is stretched, so that its length is 20% more than its initial length, the percentage increase in the resistance of the wire is :-

- (1) 40% (2) 10%
(3) 44% (4) 25%

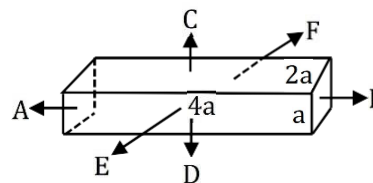
20. The length of a given cylindrical wire is increased by 100%. Due to the consequent decrease in diameter the change in the resistance of the wire will be :-

- (1) 300% (2) 200%
(3) 100% (4) 50%

21. On increasing the temperature, the specific resistance of a conductor and a semiconductor-

- (1) both increase
(2) both decrease
(3) increases and decreases respectively
(4) decreases and increases respectively

22. A conductor with rectangular cross section has dimensions $(a \times 2a \times 4a)$ as shown in figure. Resistance across AB is x, across CD is y and across EF is z. Then



- (1) $x = y = z$ (2) $x > y > z$
(3) $y > x > z$ (4) $x > z > y$

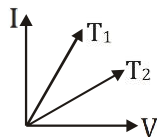
23. Specific resistance of a conductor increases with:-

- (1) increase in temperature.
(2) increase in cross-sectional area
(3) increase in cross-sectional area and decrease in length.
(4) decrease in cross-sectional area.

24. The temperature coefficient of resistance of a wire is 0.00125 per degree celcius. At 300 K its resistance is 1 ohm. The resistance of the wire will be 2 ohms at a temperature :-

- (1) 1154 K (2) 1127 K
(3) 600 K (4) 1400 K

25. The current voltage graph for a given metallic conductor at two different temperatures T_1 and T_2 are as shown in the figure. Then :-

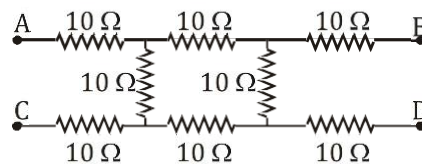


- (1) $T_1 > T_2$
 (2) $T_1 = T_2$
 (3) nothing can be said about T_1 and T_2
 (4) $T_1 < T_2$
26. The effective resistance is $\frac{6}{5} \Omega$, when two wires are joined in parallel. When one of the wire breaks, the effective resistance is 2 ohms. The resistance of the broken wire was :-
- (1) $\frac{3}{5} \Omega$ (2) 2Ω (3) $\frac{6}{5} \Omega$ (4) 3Ω
27. At what temperature will the resistance of a copper wire become three times its value at 0°C ? [Temperature coefficient of resistance for copper = 4×10^{-3} per $^\circ \text{C}$]:-
- (1) 400°C (2) 450°C
 (3) 500°C (4) 600°C
28. Copper and silicon are cooled from 300 K to 60 K; the specific resistance :-
- (1) decreases in copper but increases in silicon
 (2) increases in copper but decreases in silicon
 (3) increases in both
 (4) decreases in both
29. Two resistances R_1 and R_2 are made of different materials. The temperature coefficient of the material of R_1 is α and that of the material of R_2 is $-\beta$. The resistance of the series combination of R_1 and R_2 does not change with temperature, then the ratio of resistances of the two wires at 0°C will be :

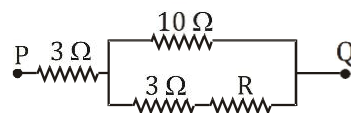
- (1) $\frac{\alpha}{\beta}$ (2) $\frac{\alpha + \beta}{\alpha - \beta}$
 (3) $\frac{\alpha^2 + \beta^2}{\alpha\beta}$ (4) $\frac{\beta}{\alpha}$

COMBINATION OF RESISTANCES & KIRCHHOFF'S LAW

30. A metal wire of resistance R is cut into three equal pieces which are then connected side by side to form a new wire, the length of which is equal to one third of the original length. The resistance of this new wire is :-
- (1) R (2) $3R$
 (3) $\frac{R}{9}$ (4) $\frac{R}{3}$
31. Three resistances of values 2Ω , 3Ω and 6Ω are to be connected to yield an effective resistance of 4Ω . This can be done by connecting :
- (1) 3Ω resistance in series with a parallel combination of 2Ω and 6Ω
 (2) 6Ω resistance in series with a parallel combination of 2Ω and 3Ω
 (3) 2Ω resistance in series with a parallel combination of 3Ω and 6Ω
 (4) 2Ω resistance in parallel with a parallel combination of 3Ω and 6Ω
32. What will be the equivalent resistance between the points A and D?

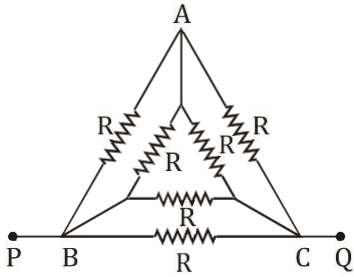


- (1) 10Ω (2) 20Ω
 (3) 30Ω (4) 40Ω
33. In the circuit shown here, what is the value of the unknown resistance R so that the total resistance of the circuit between points 'P' and 'Q' is also equal to R :-



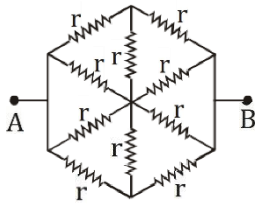
- (1) 3Ω (2) $\sqrt{39} \Omega$
 (3) $\sqrt{69} \Omega$ (4) 10Ω

34. The resistance across P and Q in the given figure is



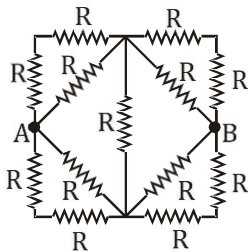
- (1) $\frac{R}{3}$ (2) $\frac{R}{2}$ (3) $2R$ (4) $6R$

35. The resistance of the circuit between A and B is:



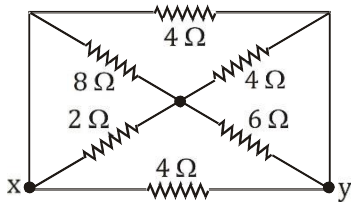
- (1) r (2) $0.5r$ (3) $2r$ (4) $3r$

36. Thirteen resistances each of resistance $R \Omega$ are connected in the circuit as shown in the figure. The effective resistance between A and B is :-



- (1) $\frac{4R}{3} \Omega$ (2) $2R \Omega$
(3) $R \Omega$ (4) $\frac{2R}{3} \Omega$

37. The total resistance between x and y in ohms is:-

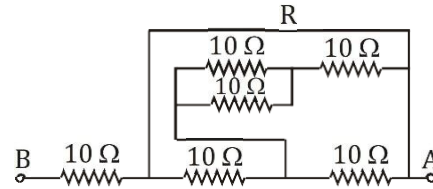


- (1) 1Ω (2) 4Ω
(3) $\frac{4}{3} \Omega$ (4) $\frac{2}{3} \Omega$

38. The resultant resistance of n wires each of resistance r ohms is R , when they are connected in parallel. When these n resistances are connected in series, the resultant resistance will be :-

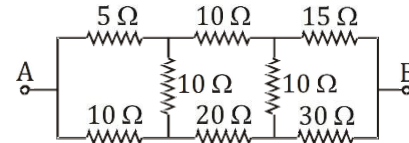
- (1) $\frac{R}{n}$ (2) $\frac{R}{n^2}$
(3) nR (4) n^2R

39. For the network of resistance shown in the fig, the equivalent resistance of the network between the points A and B is 18Ω . The value of unknown resistance R is :-



- (1) 8Ω (2) 10Ω (3) 16Ω (4) 24Ω

40. In the arrangement of resistances shown below, the effective resistance between points A and B is



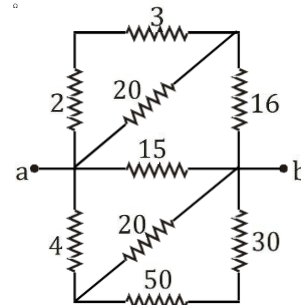
- (1) 20Ω (2) 30Ω
(3) 90Ω (4) 110Ω

41. In the circuit shown the equivalent resistance between A and B is



- (1) R (2) $\frac{2R}{5}$ (3) $\frac{R}{3}$ (4) $2R$

42. In the figure the numerical values denote resistances in SI units. The total resistance of the circuit between a & b will be:



- (1) 12 ohms (2) 24 ohms.
(3) 15 ohms (4) 6 ohms

Physical Education

- 1 Draw the fixture of 21 team' on knock -out basis.
- 2 Draw the fixture of 9 team' using round robin method
- 3 what do you mean by community sports programs? Explain about health runs and run for unity in detail
- 4 draw the fixture on 9 teams on basis of league tournament using cycle method
- 5 Explain the causes of kyphosis and lordosis
- 6 suggest corrective measures for flatfoot and scoliosis.
- 7 How can physical activities be corrective measure for the common postural deformities
- 8 mention that causes precautions and remedies of bow leg and knock - knee
- 9 what is obesity? Write in detail about any two' asanas for curing obesity
what do you mean by back pain? Explain you Tadasana and Matsyasan

MUSIC

1. Write and learn definitions of Swar, Saptak, Varn, Alankar, Graam, & Aalap..
2. Write and learn eakgun and dugan of Rupak tall, Jhaptall, & Dhamar tall..
3. Write and learn the biography of Fayaz khan..