Holiday Homework

CLASS : XII

SUBJECT : MATHS

(RELATIONS AND FUNCTIONS)

ONE MARK QUESTIONS

1. If A is the set of students of a school then write, which of following relations are Universal, Empty or neither of the two.

   $R_1 = \{(a, b) : a, b$ are ages of students and $|a - b| > 0\}$

   $R_2 = \{(a, b) : a, b$ are weights of students, and $|a - b| < 0\}$

   $R_3 = \{(a, b) : a, b$ are students studying in same class$\}$

2. Is the relation R in the set $A = \{1, 2, 3, 4, 5\}$ defined as

   $R = \{(a, b) : b = a + 1\}$ reflexive?

3. If R, is a relation in set N given by

   $R = \{(a, b) : a = b - 3, b > 5\}$,

   then does element $(5, 7) \in R$?

4. If $f : \{1, 3\} \to \{1, 2, 5\}$ and $g : \{1, 2, 5\} \to \{1, 2, 3, 4\}$ be given by $f = \{(1, 2), (3, 5)\}$, $g = \{(1, 3), (2, 3), (5, 1)\}$,

   write g of.

5. Let $g, f : R \to R$ be defined by

   $g(x) = \frac{x+2}{3}$, $f(x) = 3x - 2$. write fog (x)

6. If $f : R \to R$ defined by

   $f(x) = \frac{2x-1}{5}$

   be an invertible function, write $f^{-1}(x)$.

7. If $f(x) = \log x$ and $g(x) = e^x$. Find fog and gof, $x > 0$.

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8. If $n(A) = n(B) = 3$, then how many bijective functions from A to B can be formed?

9. Is $f: N \to N$ given by $f(x) = x^2$, one-one? Give reason.

10. If $f: R \to A$, given by

    $f(x) = x^2 - 2x + 2$ is onto function, find set A.

11. If $f: A \to B$ is bijective function such that $n(A) = 10$, then $n(B) = ?$

12. If $f: R \to R$ defined by $f(x) = \frac{x-1}{2}$, find $(fof)(x)$

13. $R = \{(a, b): a, b \in N, a \neq b$ and a divides $b\}$. Is R reflexive? Give reason

14. Is $f: R \to R$, given by $f(x) = |x - 1|$ one-one? Give reason

15. $f: R \to B$ given by $f(x) = \sin x$ is onto function, then write set B.

16. If $f(x) = \log\left(\frac{1+x}{1-x}\right)$, show that $f\left(\frac{2x}{1+x^2}\right) = 2f(x)$.

17. State the reason for the relation R in the set {1,2,3} given by R={(1,2),(2,1)} not to be transitive.

18. If R= {(x,y): x+2y = 8} is a relation on N, write the range of R.

19. Let A= {0,1,2,3} and define a relation R on A as follows:
    R={(0,0) (0,1) (0,3), (1,0), (1,1), (2,2), (3,0), (3,3)}, Is R reflexive? Symmetive? transitive?

20. Consider the set A= {1,2,3}. Write the smallest equivalence relation R on A.

(INVERSE TRIGONOMETRIC FUNCTIONS)

ONE MARK QUESTIONS

1. Write the principal value of

(i) $\sin^{-1}\left(-\frac{\sqrt{3}}{2}\right)$ **(ii)** $\cos^{-1}\left(\sqrt{3}/2\right)$

(iii) $\tan^{-1}\left(-\frac{1}{\sqrt{3}}\right)$ **(iv)** $\text{cosec}^{-1}(-2)$

(v) $\cot^{-1}\left(\frac{1}{\sqrt{3}}\right)$ **(vi)** $\sec^{-1}(-2)$.

2. What is the value of the following functions (using principal value)

(i) $\tan^{-1}\left(\frac{1}{\sqrt{3}}\right) - \sec^{-1}\left(\frac{2}{\sqrt{3}}\right)$ **(ii)** $\sin^{-1}\left(-\frac{1}{2}\right) - \cos^{-1}\left(\frac{\sqrt{3}}{2}\right)$

(iii) $\tan^{-1}(1) - \cot^{-1}(-1)$ **(iv)** $\text{cosec}^{-1}\left(\sqrt{2}\right) + \sec^{-1}\left(\sqrt{2}\right)$

(v) $\tan^{-1}(1) + \cot^{-1}(1) + \sin^{-1}(1)$. **(vi)** $\sin^{-1}\left(sin\frac{4\pi}{5}\right)$

(vii) $\tan^{-1}\left(tan\frac{5\pi}{6}\right)$ **(viii)** $\text{cosec}^{-1}\left(cosec\frac{3\pi}{4}\right)$

3. If $\tan^{-1} x + \tan^{-1} y = \frac{4\pi}{5}$, find $\cot^{-1} x + \cot^{-1} y$.

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4. Find the values of the following

(i) $\sin\left\{\frac{\pi}{6}-\sin^{-1}\left(-\frac{\sqrt{3}}{2}\right)\right\}$ (ii) $\tan^{-1}\left(\sin\left(-\frac{\pi}{2}\right)\right)$

(iii) $\tan\left(\cos^{-1}\frac{8}{17}\right)$ (iv) $\sin^{-1}\left(\cos\left(\sin^{-1}\frac{\sqrt{3}}{2}\right)\right)$

5. Evaluate the following

(i) $\sin(2\sin^{-1}(0.6))$ (ii) $\sin(2\tan^{-1}(0.75))$

(iii) $\sin\left(2\cos^{-1}\left(-\frac{5}{15}\right)\right)$ (iv) $\tan\left(\frac{1}{2}\cos^{-1}\left(\frac{\sqrt{5}}{3}\right)\right)$

6. If $\tan^{-1}x+\tan^{-1}y=\frac{\pi}{4}$, $xy<1$, then the value of $x+y+xy$.

7. If $3\tan^{-1}x+\cot^{-1}x=\pi$, then find the value of x.

8. If $\cos\left(\sin^{-1}\frac{2}{5}+\cos^{-1}x\right)=0$, then find the value of x.

9. If $\sin^{-1}x+\sin^{-1}y=\frac{\pi}{2}$, then find the value of $\cos^{-1}x+\cos^{-1}y$.

10. If $\cos^{-1}\alpha+\cos^{-1}\beta+\cos^{-1}\gamma=3\pi$, then find the value of $\alpha(\alpha+\gamma)+\beta(\alpha+\gamma)+\gamma(\alpha+\beta)$.

11. If $\tan^{-1}x-\cot^{-1}x=\tan^{-1}\left(\frac{1}{\sqrt{3}}\right)$, the find the value of x:

12. Find the value of $\tan^2(\sec^{-1}2)+\cot^2(\operatorname{cosec}^{-1}3)$

13. Evaluate $\sin\{\cot^{-1}(\cos(\tan^{-1}1))\}$

14. If $a\le 2\sin^{-1}x+\cos^{-1}x\le b$, then find the value of a and b.

15. Solve $\cos^{-1}(\sin(\cos^{-1}x)=\frac{\pi}{3}$

16. Write the value of $\tan\left(2\tan^{-1}\frac{1}{5}\right)$

17. Write the value of $\operatorname{Sec}^{-1}\left(\sec\left(-\frac{8\pi}{5}\right)\right)$

(MATRICES & DETERMINANTS)

ONE MARK QUESTIONS

1. If $[1\ x\ 1]\begin{bmatrix}1 & 3 & 2\\ 0 & 5 & 1\\ 0 & 3 & 2\end{bmatrix}\begin{bmatrix}x\\ 1\\ -2\end{bmatrix} = 0$,then What is the value of$x$?

2. For what value of λ, the matrix A is a singular matrix where

$$A = \begin{bmatrix}1 & 3 & \lambda+2\\ 2 & 4 & 8\\ 3 & 5 & 10\end{bmatrix}$$

3. Find the value of A^2, if

$$A = \begin{bmatrix}1 & 0 & 0\\ 0 & 1 & 0\\ a & b & -1\end{bmatrix}$$

4. If $A = \begin{bmatrix}a & b\\ b & a\end{bmatrix}$ and $A^2 = \begin{bmatrix}\alpha & \beta\\ \beta & \alpha\end{bmatrix}$, then find the value of $\propto and\ \beta$.

5. If A is a square matrix such that $A^2 = I$, then write the value of $(A - I)^3 + (A + I)^3 - 7$ A in simplest form.

6. Write the value of Δ, if

$$\Delta = \begin{vmatrix}x+y & y+z & z+x\\ z & x & y\\ -3 & -3 & -3\end{vmatrix}$$

7. If $\begin{bmatrix}x-y & z\\ 2x-y & w\end{bmatrix} = \begin{bmatrix}-1 & 4\\ 0 & 5\end{bmatrix}$,find the value of x+y.

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8. If A is a 3 × 3 matrix, $|A| \neq 0$ and $|3A| = K|A|$, then write the value of K.

9. If $A = \begin{bmatrix} 4 & x+2 \\ 2x-3 & x+1 \end{bmatrix}$ is a symmetric matrix, then write the value of x.

10. Matrix $A = \begin{bmatrix} 0 & 2a & -2 \\ 3 & 1 & 3 \\ 3b & 3 & -1 \end{bmatrix}$ is given to be symmetric, find the value of a and b.

11. For any 2 × 2 matrix A, if A (adjoint A) = $\begin{bmatrix} 10 & 0 \\ 0 & 10 \end{bmatrix}$, then find $|A|$.

12. Find X, if A + X = I, where

$$A = \begin{bmatrix} 1 & 4 & -1 \\ 3 & 4 & 7 \\ 5 & 1 & 6 \end{bmatrix}$$

13. If $U = [2 \quad -3 \quad 4], V = \begin{bmatrix} 3 \\ 2 \\ 1 \end{bmatrix}$, X= $[0 \quad 2 \quad 3]$ and $Y = \begin{bmatrix} 2 \\ 2 \\ 4 \end{bmatrix}$, then find UV+XY.

14. If $\begin{bmatrix} 2 & -3 \\ 6 & 5 \end{bmatrix}\begin{bmatrix} 1 & 0 \\ 2 & 3 \end{bmatrix} = \begin{bmatrix} -4 & -9 \\ 16 & 15 \end{bmatrix}$

write the equation after applying elementary column transformation $C_2 \rightarrow C_2 + 2C_1$

15. If $A = \begin{bmatrix} 2 & 0 & 0 \\ 0 & 2 & 0 \\ 0 & 0 & 2 \end{bmatrix}$, then find the value of A^3.

16. Find the value of $a_{23} + a_{32}$ in the matrix

$A = [a_{ij}]_{3\times3}$ where $a_{ij} = \begin{cases} |2i - j| & \text{if } i > j \\ -i + 2j + 3 & \text{if } i < j \end{cases}$

17. If $A = \begin{bmatrix} 1 & 0 & 1 \\ 0 & 0 & 0 \\ 1 & 0 & 1 \end{bmatrix}$, then find $|A^2|$.

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18. For what value of x, is the matrix

$A = \begin{bmatrix} 0 & 1 & -2 \\ -1 & x & -3 \\ 2 & 3 & 0 \end{bmatrix}$ a skew-symmetric matrix

19. If $A = \begin{bmatrix} \sin 15^\circ & \cos 15^\circ \\ -\sin 75^\circ & \cos 75^\circ \end{bmatrix}$, then evaluate $|A|$.

20. If A is a square matrix, expressed as A= X + Y where X is symmetric and Y is skew-symmetric, then write the values of X and Y.

21. Write a matrix of order 3 × 3 which is both symmetric and skew-symmetric matrix.

22. What positive value of x makes the following pair of determinants equal?

$$\begin{vmatrix} 2x & 3 \\ 5 & x \end{vmatrix}, \quad \begin{vmatrix} 16 & 3 \\ 5 & 2 \end{vmatrix}$$

23. $\Delta = \begin{vmatrix} 5 & 3 & 8 \\ 2 & 0 & 1 \\ 1 & 2 & 3 \end{vmatrix}$, find the value of $5A_{31} + 3A_{32} + 8A_{33}$.

24. If $A = \begin{bmatrix} 2 & 1 \\ 7 & 5 \end{bmatrix}$, find $|A\ (adjA)|$

25. Find the minimum value of. $2\begin{vmatrix} 1 & 1 & 1 \\ 1 & 1+sin\theta & 1 \\ 1 & 1 & 1+cos\theta \end{vmatrix}$

26. If A and B are square matrices of order 3 and $|A| = 5$ and $|B| = 3$, then find the value of $|3AB|$.

27. Evaluate $\begin{vmatrix} 3+2i & -6i \\ 2i & 3-2i \end{vmatrix}$, $i = \sqrt{-1}$

28. Without expanding, find the value of $\begin{vmatrix} cosec^2\theta & cot^2\theta & 1 \\ cot^2\theta & cosec^2\theta & -1 \\ 42 & 40 & 2 \end{vmatrix}$

29. Using determinants, find the equation of line passing through (0, 3) and (1,1).

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30. If A be any square matrix of order 3 × 3 and $|A| = 5$, then find the value of $|adj\ (adjA)|$

31. What is the number of all possible matrices of order 2 × 3 with each entry 0,1 or 2.

32. Given a square matrix A of order 3 × 3 such that $|A|=12$, find the value of $|A\ adj\ A|$

33. If $A = \begin{bmatrix} 2 & -1 \\ 3 & 4 \end{bmatrix}$ find $|(A^{-1})^{-1}|$

34. If $A = [-1 \quad 2 \quad 3]$ and $B = \begin{bmatrix} 3 \\ -4 \\ 0 \end{bmatrix}$ find $|AB|$

35. Find $|A\ (adjoint\ A)|$ and $|adjoint\ A|$, if $A = \begin{bmatrix} a & 0 & 0 \\ 0 & a & 0 \\ 0 & 0 & a \end{bmatrix}$

TWO MARKS QUESTIONS

1. Construct a matrix of order 2 × 3, whose elements are given by

(a) aij = $\frac{(i-2j)^2}{2}$ (b) aij = $\frac{|-2i+j|}{3}$

2. If A (x_1, y_1), B (x_2, y_2) and C (x_3, y_3) are vertices of on equilateral triangle with each side equal to a units, than prove that

$$\begin{bmatrix} x_1 & y_1 & 2 \\ x_2 & y_2 & 2 \\ x_3 & y_3 & 2 \end{bmatrix}^2 = 3a^4$$

3. Prove that the diagonal elements of a skew-symmetric matrix are all zero.

4. If $2\begin{bmatrix} x & 5 \\ 7 & y-3 \end{bmatrix} + \begin{bmatrix} 3 & -4 \\ 1 & 2 \end{bmatrix} = \begin{bmatrix} 7 & 6 \\ 15 & 14 \end{bmatrix}$

Find the valve of x – y

5. If A and B are skew symmetric matrices of the same order prove that AB + BA is symmetric matrix.

6. Without expending prove that $\begin{bmatrix} o & p-q & p-r \\ q-p & o & q-r \\ r-p & r-q & o \end{bmatrix} = 0$

7. Let A= $\begin{bmatrix} 2 & 5 \\ 4 & 6 \end{bmatrix}$ Prove that A+A' is symmetric matrix.

8. If A= $\begin{bmatrix} 2 \\ 3 \\ 5 \end{bmatrix}$ and B=[1 2 3], Verify (AB)' = B'A'

9. If A= $\begin{bmatrix} 1 & 0 & -2 \\ 3 & -1 & 0 \\ -2 & 1 & 1 \end{bmatrix}$, B= $\begin{bmatrix} 0 & 5 & -4 \\ -2 & 1 & 3 \\ -1 & 0 & 2 \end{bmatrix}$ and C= $\begin{bmatrix} 1 & 5 & 2 \\ -1 & 1 & 0 \\ 0 & -1 & 1 \end{bmatrix}$

Find AB-AC.

10. If A= $\begin{bmatrix} 1 & 3 \\ 2 & 1 \end{bmatrix}$ Find the determinant of A^2-2A

11. Without expanding, evaluate $\begin{bmatrix} 265 & 240 & 219 \\ 240 & 225 & 198 \\ 219 & 198 & 181 \end{bmatrix}$

12. If $D_1 = \begin{vmatrix} a & b & c \\ x & y & z \\ l & m & n \end{vmatrix}$ and $D_2 = \begin{vmatrix} m & -b & y \\ -l & a & -x \\ n & -c & z \end{vmatrix}$ evaluate D_1+D_2.

13. If A is a skew symmetric matrix of odd order, then prove that |A|= 0

14. Write the minors and co-factors of each element of the first column of the matrix A $A = \begin{bmatrix} 1 & -3 & 2 \\ 4 & -1 & 2 \\ 3 & 5 & 2 \end{bmatrix}$

15. Find x and y, if $\begin{bmatrix} 2x+1 & 3y \\ 0 & y^2-5y \end{bmatrix} = \begin{bmatrix} x+3 & y^2+2 \\ 0 & -6 \end{bmatrix}$

APEX PUBLIC SCHOOL
HOLIDAYS HOMEWORK
SESSION: 2020 – 2021
CLASS – XII
SUBJECT – COMPUTER SCIENCE

PYTHON PROGRAM

Q.1 Python Program to find the area of triangle.
Q.2 Python Program to calculate the square root.
Q.3 Python program to swap two variables.
Q.4 Program to find Greatest between two Numbers.
Q.5 Program to check whether the given Year is Leap Year.
Q.6 Program to Calculate Grade.
Q.7 Program to find greatest among Three Numbers.
Q.8 Program to check whether the no. is Even or Odd.
Q.9 Program to Calculate A to the power B.
Q.10 Program to print Fibonacci Series 0, 1, 1, 2, 3, 5, 8, 13…….

Data Management (DM-1)

Q – 1. Name command to terminate database connection?
Q – 2. What is Default User name and Password for TESTDB?
Q – 3. What is Aggregate Function ?
Q – 4. Name all aggregate functions?
Q – 5. Will Max() and Min() work on Alphabets?
Q – 6. Will Sum() and Avg() works on Alphabets ?
Q – 7. Write difference between Group By Clause and Having Clause ?
Q – 8. How can you interface python with an SQL database? Explain.
Q – 9. Consider the following table and give the answer.

TABLE EMP:

Code	Name	Sal
E1	RAJKUMAR	NULL
E2	SUCHITRA	4500
E3	YOGENDRA	NULL
E4	SUSHIL KR	3500
E5	LOVELY	4000

1) Select Sum(Sal) from EMP;

2) Select Min(Sal) from EMP;

3) Select Max(Sal) from EMP;

4) Select Count(Sal) from EMP;

5) Select Avg(Sal) from EMP;

6) Select Count(*) from EMP;

7) Select Count(Code) from EMP;

PREPARE WORD FILE ALSO FOR Q – 10, 11, 12 (DATA MANAGEMENT – I)

Q – 10. Consider the CUSTOMERS table having the following records:

ID	NAME	AGE	ADDRESS	SALARY
1	Ramesh	32	Ahmedabad	2000.00
2	Khilan	25	Delhi	1500.00
3	kaushik	23	Kota	2000.00
4	Chaitali	25	Mumbai	6500.00
5	Hardik	27	Bhopal	8500.00
6	Komal	22	MP	4500.00
7	Muffy	24	Indore	10000.00

1) Write a command to create a CUSTOMER table.
2) Write command to insert rows in a CUSTOMER table.
3) Write command to show the structure of the table.
4) Write a command to show all the columns of the table.
5) Write a SQL query to display all records in ascending order of name.
6) Write a SQL query to display all records in descending order of name.
7) Write a SQL query to display all records in ascending order of name, descending order of age.
8) Write a SQL query to display maximum salary.
9) Write a SQL query to display minimum salary.
10) Write a SQL query to display total number of records.
11) Write a SQL query to display average salary.
12) Write a SQL query to display total salary of all the persons.
13) Write a SQL query to display name of those persons whose salary is greater than average salary.
14) Write a SQL query to display details of those persons whose age is less than average age.

Q – 11. Consider the following tables WORKER and PAYYLEVEL and answer the questions:

Table: WORKER

ECODE	NAME	DESIG	PLEVEL	DOJ	DOB
11	Sachin Patel	Supervisor	P001	13- Sep- 2004	23-Aug-1985
12	Chander Nath	Operator	P003	22-Feb-2010	12-Jul-1987
13	Fizza	Operator	P003	14-Jun-2009	14-Oct-1983
15	Ameen Ahmed	Mechanic	P002	21-Aug-2006	13-Mar-1984
18	Sanya	Clerk	P002	19-Dec-2005	09-Jun-1983

Table: PAYLEVEL

PLEVEL	PAY	ALLOWANCE
P001	26000	12000
P002	22000	10000
P003	12000	6000

15) To display the details of all WORKERs in descending order of DOB.
16) To display the PLEVEL and number of workers in that PLEVEL.
17) To display the PLEVEL and number of workers in that PLEVEL whose pay is greater than 15000
18) To display NAME and DESIG of those WORKERs, whose PLEVEL is either P001 or P002.

Give the output of the following SQL queries:

19) SELECT COUNT (PLEVEL), PLEVEL FROM WORKER GROUP BY PLEVEL;
20) SELECT MAX (DOB), MIN (DOJ) FROM WORKER;

Q – 12. Consider the tables given below and answer the questions that follow :

Table : Event

EventId	Event	NumPerformers	CelebrityID
101	Birthday	10	C102
102	PromotionParty	20	C103
103	Engagement	12	C102
104	Wedding	15	C104

Table : Celebrity

CelebrityID	Name	Phone	FeeCharged
C101	FaizKhan	99101956	200000
C102	SanjayKumar	893466448	250000
C103	NeeraKhanKapoor	981166568	300000
C104	ReenaBhatia	65877756	100000

21) Name the Primary keys in both the tables and Foreign key in 'Event' table. Can NumPerformers (Number for performers) be set as the Primary key ? Give reason.
22) How many rows will be present in the Cartesian join of the above mentioned two tables ?

Write the commands in SQL :

23) To display EventId, Event name, Celebrity Id and Names of celebrities for only those events that have more than 10 performers.
24) To display Event name, Celebrity Id and Names of celebrities who have ''Khan'' anywhere in their names.
25) To display Event name, Names of celebrities and Fee charged for those celebrities who charge more than 200000.

COMPUTER NETWORK - I

Q – 1. Ayurveda Training Educational Institute is setting up its centre in Hyderabad with four specialised departments for Orthopedics, Neurology and Pediatrics along with an administrative office in separate buildings. The physical distances between these

department buildings and the number of computers to be installed in these departments and administrative office are given as follows. You, as a network expert, have to answer the queries as raised by them in (i) to (iv).

Shortest distances between various locations in metres :

Administrative Office to Orthopedics Unit	55
Neurology Unit to Administrative Office	30
Orthopedics Unit to Neurology Unit	70
Pediatrics Unit to Neurology Unit	50
Pediatrics Unit to Administrative Office	40
Pediatrics Unit to Orthopedics Unit	110

Number of Computers installed at various locations are as follows :

Pediatrics Unit	40
Administrative Office	140
Neurology	50
Orthopedics Unit	80

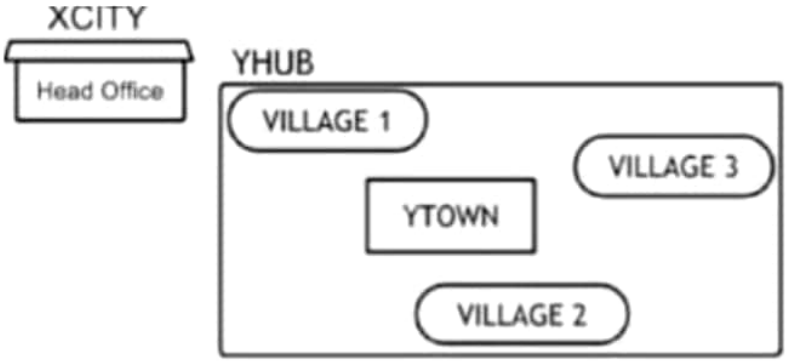
i. Suggest the most suitable location to install the main server of this institution to get efficient connectivity.

ii. Suggest the best cable layout for effective network connectivity of the building having server with all the other buildings

iii. Suggest the devices to be installed in each of these buildings for connecting computers installed within the building out of the following : Gateway, switch, Modem

iv. Suggest the topology of the network and network cable for efficiently connecting each computer installed in each of the buildings out of the following : Topologies: Bus Topology, Star Topology Network Cable: Single Pair Telephone Cable, Coaxial Cable, Ethernet Cable.

Q2. Intelligent Hub India is a knowledge community aimed to uplift the standard of skills and knowledge in the society. It is planning to setup its training centers in multiple towns and villages pan India with its head offices in the nearest cities. They have created a model of their network with a city, a town and 3 villages as follows. As a network consultant, you have to suggest the best network related solutions for their issues/problems raised in (i) to (iv), keeping in mind the distances between various locations and other given parameters.



Shortest distances between various locations:

VILLAGE 1 to YTOWN	2 KM
VILLAGE 2 to YTOWN	1.5 KM
VILLAGE 3 to YTOWN	3 KM
VILLAGE 1 to YTOWN 2	3.5 KM
VILLAGE 1 to YTOWN 3	4.5 KM
VILLAGE 1 to YTOWN 3	3.5 KM
CITY Head Office to YHUB	30 KM

Number of Computers installed at various locations are as follows:

YTOWN	100
VILLAGE 1	10
VILLAGE 2	15
VILLAGE 3	15
CITY OFFICE	5

In Villages, there are community centers, in which one room has been given as training center to this organization to install computers. The organization has got financial support from the government and top IT companies.

i. Suggest the most appropriate location of the SERVER in the YHUB (out of the 4 locations), to get the best and effective connectivity. Justify your answer.

ii. Suggest the best wired medium and draw the cable layout (location to location) to efficiently connect various locations within the YHUB.

iii. Which hardware device will you suggest to connect all the computers within each location of YHUB?

iv. Which service/protocol will be most helpful to conduct live interactions of Experts from Head Office and people at YHUB locations? Ans: Videoconferencing OR VoIP

Short answer questions

Q1. Define network?
Q2. Differentiate LAN and WAN?
Q3. Explain the working of client server architecture?
Q4. Define IoT?
Q5. List out some examples for Iot devices?
Q6. Differentiate public and private cloud?
Q7. What is the unique identification number of NIC card?
Q8. Define topology?
Q9. Differentiate switch and gateway?
Q10. List some advantage of ring topology.

NETWORK – II

Short and long answer Questions

1. Define amplitude?

2. Give example for IP address?
3. List out any four network tools?
4. Which is the protocol used to handle congestion in wireless network?
5. Give eg for connection oriented protocol?
6. Differentiate amplitude modulation and frequency modulation?
7. What are the different types of errors occur when date is transmitted over network? Give example for each.
8. Differentiate IPv4 and IPv6?
9. What are the different wireless connectivity protocols?
10. What happens behind the scenes when you send an email, before it reaches the destination?
11. Differentiate the use of POP and SMTP protocol in email?
12. What is SSL? How does it affect the communication over internet?
13. Define checksum? What are the steps to find out checksum?
14. What type of information is stored in routing table?
15. What measures do wireless networks employ to avoid collision?

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HOLIDAY HOMEWORK

PHYSICS(XII S)

Q1)Prepare an investigatory project or working model from your syllabus.

Q2) Prepare Practical file. Write outlines of SECTION A experiments.

Use the following order.

AIM

APPARATUS USED

THEORY/FORMULA/DIAGRAM

OBSERVATIONS

CALCULATIONS

RESULT

PRECAUTIONS.

Q3) Revise till chapter six.

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Holiday Homework

Class XII (Biology)

Q1) Solve board Papers from 2015 to 2020 in your bio register.

Q2) Practice all diagram in your bio register.

Q3) Learn and write all important topics of each chapter.

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Holiday Homework

Class XII (Chemistry)

Q1) Revise

a) Halo Alkane & Halo Arenes

b) Alcohol, Phenol & Ethers

c) Aldehydes, Ketones & Carboxylic Acid

d) Amines

Q2) Solve all four assignments from organic chemistry.

Q3) Solve 2020 board question papers Set1, set2 and Set3 (only Organic Chemistry)

Class XII

Psychology Assignment

Holidays Homework

Note:

1. Pending class assignments to be completed.

2.Syllabus covered to be revised.

3.Demographic details of the case study participant to be collected and recorded.

HOLIDAYS ASSIGNMENT

Instructions

- *The assignment consist of 3 Parts ,A,B,C.*
- *Part A consist 18 learning checks ,one mark each.*
- *Part B consist of 6 questions of 2 marks each.*
- *Part C consist of 5 questions of 3 marks each.*
- *Differences to be written in Paragraph form.*
- *All questions are compulsory.*

PART A:

Learning checks (1 mark each)

1. Expand PTSD_____

2. DSM stands for_____

3._____ is a method in which a person provides factual information about himself/herself.

a. Interview b. Self report measures

c. Psychological testing. d.observation

4.Fear of unfamiliar situations is called _____

5.Using Past experience creatively to solve novel problems is known as_____

6. Individuals having high motivation, lack of patience and who are always in a hurry are characterised by type_____ personality.

7. An individual reporting loss of part or some bodily functions is showing signs of _____

a. Dissociative disorder b. panic disorder

c. Depressive Disorders d. Conversion Disorder.

8. Sneha is suffering from severe anxiety but despite that she hesitates to go to a counsellor because she is scared to what others would say . This shows that there is _____ attached to Mental health.

a.Stigma b. Magic

c.Norms d.Unwillingness

9.Tendency to put people in the extreme positions is called _____ bias.

a. Halo effect b. extreme response bias

c. social desirability d. Acquiescence

10. Define Case Study.

11. IQ of 40 is an indication of _____ retardation

A) mild

B) moderate

C) severe

D) profound

12.Mahima enjoys preparing charts and knowledge organizers for her classes. Identify her intelligence as per Multiple Intelligence._____

13._____ , _____ and _____ play a vital role in shaping a child's about self.

14.Lazarus and Folksman coping resources can be divided into two types of responses namely, _____ and _____.

15.Match the following

List A	List B
1. WBC	a healthy stress
2 .T cells	b leucocytes
3. antigens	c natural killer cells
4 .eustress	d viruses

16.The full form for I.C.D.10 is_____and was prepared by _____.

17. A difference between phobic disorder and a fear is that the phobic response _____

a. is out of proportion to the actual danger.

b. involves cognitive as well as behavioral reactions.

c. is characterized by heart rate.

d. encourages avoidance of the feared object or situation.

18. Jane's son was recently bitten by a snake. Although she tried to hit the snake with her fist before it reached her son, Jane was unable to prevent it from biting him. Her son is fine, but Jane's hand has become paralyzed. However, multiple examination and testing shows no damage to her hand. What will be her diagnosis?

a. Psychosomatic disorder.

b. Conversion Disorder.

c. Insanity

d. stress

PART B : 2 Marks

Q1. Why do Psychologist assess Individual differences.

Q2. State two advantages of observation as a technique.

Q3.Explain the concept of stress resistant Personality.

Q4. Explain the major idea proposed by Carl Rogers.

Q5.Describe the term ' Collective Consciousness'.

Q6. Differentiate between

- a. Technological Intelligence and integral intelligence.
- b. fixation and regression
- c. social phobia and agoraphobia
- d. Real self and Ideal Self.

Part C: 3Marks

Q1. Explain the Interactional approach to understanding Personality.

Q2. Give two limitations of behavioural Rating Methods.

Q3. 'Intelligence in the interplay of nature and nurture'. Comment.

Q4. How has intelligence been described in the Indian tradition?

Q5. What is self control or delay of gratification. Discuss any 2 techniques used for self control.

APEX PUBLIC SCHOOL

ENGLISH

CLASS XII

2020-2021

NOTHING IS MORE POWERFUL FOR YOUR FUTURE THAN BEING A GATHERER OF GOOD IDEAS AND INFORMATION. THAT'S CALLED DOING YOUR HOMEWORK.

NOTE: The assignment should be done in the English Notebook.

WRITING SECTION

Q1. The entire country has been put under lockdown following the threat of a pandemic due to the Novel corona Virus. The threat of Covid 19 outbreak has forced the Indian government to impose the worst lockdown ever in recorded history. Schools and colleges have been shut indefinitely and educators conducted classes online using video conferencing apps. As a student write a letter to Editor highlighting the various pros & cons of online teaching and suggest at least two ways of making online teaching more effective .

Q 2. You are Adit / Adya. Recently your school organised a workshop on Stress Management for the students of senior classes. There was a discussion on stress related problems of the teenagers and their solutions were discussed. Write a report of the workshop for your school newsletter.

Q3. Read the following advertisement and then write a suitable application along with your bio data .You are Mohit/Mohika of 15, XYZ colony ,Santa Cruz (West) ,Mumbai.

"Wanted a Secretary, preferably a trained lady graduate with 5 years experience and a good command over written and spoken English. Apply within a week to the Personnel Manager Crown International, New Delhi – 29"

Q4. Answer the following questions based on chapters discussed during the online classes in about 150 words.

a) Will they make them sing in German, even the pigeons? Bring out the theme with evidence from the text.
b) Do you think the third level existed or was it just a waking dream fulfillment for Charlie ?
c) How has Kalki used dramatic irony in the story The Tiger King ? Do you agree with ending of the story? Give reasons for your answer.

Q 5. Write the character sketch of the following in 120-150 words:

a) M Hamel
b) William O Douglas
c) Charley

DEAR STUDENTS ENJOY AND STAY SAFE.

TO BE READY FOR TOMORROW'S OPPURTUNITIES DO YOUR HOMEWORK TODAY.
LEARN, REFINE YOUR SKILLS AND FOCUS ON GROWTH.