12 COMMERCE

BST

1. If Britain was the ruling Imperial power, India, was it's _____

a) Colony

b) Territory

c) Neighbor

d) Superpower

2. The person who made the most notable attempt to calculate India's national income during the British rule in India, on the eve of Indian independence was _____

a) O Hume

b) Dadabhai Naoroji

c) Surendra Nath Bonnerji

d) Mahatma Gandhi

3. Prior to the Independence, which of the following countries, was India's largest trading partner ?

a) Britain

b) China

c) Brazil

d) America

4. Which economy produces the goods that can be sold in the domestic or foreign market for profit motive?

a) Capitalist economy

b) Socialist economy

c) Mixed Economy

d) None of the above

5. The growing awareness about healthcare has led to an increase in the demand for healthcare products and services in the country. Identify the feature of business environment being described in the above case.

(a) Dynamic nature

(b) Uncertainty

(c) Relativity

(d) Interrelatedness

6. Twinkle Stars' is a well-known resort for organising parties, especially for children. However, in past 6 months its popularity has reduced considerably as a new resort with better ambience and facilities has opened within its vicinity. Name the related feature of business environment which has influenced the business of 'Twinkle Stars' adversely.

(a) Totality of external forces

(b) Dynamic nature

(c) Interrelatedness

(d) Uncertainty

7.In order to boost and double India's export of goods and services to over USD 1,000 billion by 2025, it is important to lower effective corporate tax rate, bring down cost of capital and simplify regulatory and tax framework. Identify the related dimension of business environment.

(a) Social dimension and Legal dimension

(b) Technological dimension and Political dimension

(c) Political dimension and Social dimension

(d) Economic dimension and Legal dimension

8. The Economic Survey, 2019 suggests that the psychological biases can be used in the realm of tax compliance. It is in favour of using religious norms such "dying in debt is a sin" to improve tax compliance. Identify the related dimensions of business environment.

(a) Legal dimension and Social dimension

(b) Social dimension and Economic dimension

(c) Technological dimension and Political dimension

(d) Political dimension and Economic dimension

9. Successful management ensures that

(a) Goals are achieved with least cost

(b) Timely achievement of goals

(c) Both of the above

(d) None of the above

10. Which of the following is not an organisational objective of management?

(a) Earning enough revenue to cover costs

(b) Earning sufficient profits to cover risks of business

(c) Increase in the prospects of business in the long run

(d) Providing free education to their employees children

11. Which of the following statements is not relevant to the concept of "Management as an inexact science"?

(a) The principles of management lack universal validity

(b) The principles of management lack universal applicability

(c) The principles of management have to be modified according to the given situation

(d) Management involves dealing with human behaviour and outcomes cannot be predicted with utmost accuracy

12. The structure in which there is separation of ownership and management is called:

(a) Sole proprietorship

(b) Partnership

(c) Company

(d) All business organization.

13. The karta in Joint Hindu Family business has :

(a) Limited liability

(b) Unlimited liability

(c) No liability for debts

(d) Joint liability.

14. Name the principle of management suggested by Henri Fayol, which advocates that, “There should be good superiors at all levels, clear and fair agreement and judicious application of penalties.”

(a) Authority and responsibility
(b) Esprit De Corps
(c) Order
(d) None of the above

15. The board of directors of a joint stock company is elected by :

(a) General public
(b) Government bodies
(c) Shareholders
(d) Employees.

Summer vacations holiday homework
ACCOUNTANCY
Class-XII

(CHAPTER 1st)

* Interest on capital

* Interest on Drawing

* P/L appropriation A/c (fluctuating and fixed capital method)

* Past adjustment

* Guarantee of minimum share of profit

(DO 5 Questions of each topic)

(CHAPTER 2nd)

* Sacrificing and gaining ratio

* Average profit method

* Super profit method

* Capitalisation method

* Accounting treatment of goodwill when there is change in the profit-sharing ratio of existing partners.

* Accounting treatment of reserves and accumulated profit when there is change in profit sharing ratio of existing partners.

*Accounting for revaluation of assets and liabilities when there is change in the profit-sharing ratio of existing partners.

(DO 5 Questions of each topic)

Class-XII

Subject-Mathematics

PRACTICE QUESTIONS

Very Short (Objective Type) / Short Answer Type

1. If $y = x \cos x$, find y_2.
2. If $y = \log x$, find $\frac{d^2y}{dx^2}$.
3. If $y = e^x + e^{-x}$, prove that $y'' = y$.
4. If $y = \sin 5x$, find $\frac{d^2y}{dx^2}$.

Long Answer I / Long Answer II Type

5. If $y = Ae^{-kt}\cos(pt + c)$, then show that $\frac{d^2y}{dx^2} + 2k\frac{dy}{dx} + n^2y = 0$, where $n^2 = p^2 + k^2$. [HOTS]
6. If $y = \cot x + \operatorname{cosec} x$, show that $\sin x\frac{d^2y}{dx^2} = y^2$.
7. If $y = e^{m\sin^{-1}x}$, prove that $(1 - x^2)y_2 - xy_1 = m^2y$. [AI 2015]
8. If $y = \operatorname{cosec}^{-1}x$, $x > 1$, then show that $x(x^2 - 1)\frac{d^2y}{dx^2} + (2x^2 - 1)\frac{dy}{dx} = 0$.
9. If $y = (\tan^{-1}x)^2$, prove that $(x^2 + 1)^2\frac{d^2y}{dx^2} + 2x(x^2 + 1)\frac{dy}{dx} = 2$. [NCERT; Delhi, AI 2012]
10. If $y = e^{a\cos^{-1}x}$, $-1 \le x \le 1$, show that $(1 - x^2)\frac{d^2y}{dx^2} - x\frac{dy}{dx} - a^2y = 0$. [NCERT; Foreign 2012]
11. If $y = x\log\left(\frac{x}{a+bx}\right)$ prove that $\frac{d^2y}{dx^2} = \frac{1}{x}\left(\frac{a}{a+bx}\right)^2$.
12. If $x = \sin\left(\frac{1}{a}\log y\right)$, show that $(1 - x^2)\frac{d^2y}{dx^2} - x\frac{dy}{dx} - a^2y = 0$.
13. If $y = \cot x$, show that $\frac{d^2y}{dx^2} + 2y\frac{dy}{dx} = 0$.

64. Prove that the derivative of $\tan^{-1}\left(\frac{\sqrt{1+x^2}-1}{x}\right)$ with respect to $\tan^{-1}x$ is independent of x.
65. If $e^y(x + 1) = 1$, show that $\frac{d^2y}{dx^2} = \left(\frac{dy}{dx}\right)^2$.
66. If $\log y = \tan^{-1}x$, show that $(1 + x^2)y_2 + (2x - 1)y_1 = 0$.
67. If $x = a\sec^3\theta$ and $y = a\tan^3\theta$, find $\frac{d^2y}{dx^2}$ at $\theta = \frac{\pi}{4}$.
68. If $y = x^x$, prove that $xyy_2 - xy_1^2 - y^2 = 0$.
69. If $x = a(\theta + \sin\theta)$ and $y = a(1 - \cos\theta)$, find $\frac{d^2y}{dx^2}$ at $\theta = \frac{\pi}{2}$.
70. If $y = x\log\left(\frac{x}{a+bx}\right)$, prove that $\frac{d^2y}{dx^2} = \frac{1}{x}\left(\frac{a}{a+bx}\right)^2$.
71. If $f(x) = \left(\frac{3+x}{1+x}\right)^{2+3x}$, find $f'(0)$.
72. If $y = \tan^{-1}\left(\frac{5ax}{a^2 - 6x^2}\right)$, prove that $\frac{dy}{dx} = \frac{3a}{a^2 + 9x^2} + \frac{2a}{a^2 + 4x^2}$.
73. If $y\sqrt{1+x^2} = \log\left[\sqrt{1+x^2} - x\right]$, show that $(x^2 + 1)\frac{dy}{dx} + xy + 1 = 0$.
74. Verify Rolle's Theorem for the function $f(x) = \log(x^2 + 2) - \log 3$ on $[-1, 1]$.

Holiday Homework Class 12 Physics

Questions 1. A potential difference of 200V is maintained across a conductor of resistance 100ohm. The no. of electrons passing through it in 1sec is

a) 1.25×10^{19} b)1.25×10^{18} c)2.5×10^{18} d)2.5×10^{16}

Question 2. If n, e, τ and m have their usual meaning, then the resistance of a wire of length l and cross- sectional area A is given by

a) $ne^2A/2m\tau l$ b) $ml/ne^2\ \tau\ A$ c) $m\ \tau\ A/ne^2t$ d) $ne^2\tau A/2ml$

Question 3. Using a kirchhoff's rules calculate the current through the 40ohm and 20ohm resistor in the following circuit.

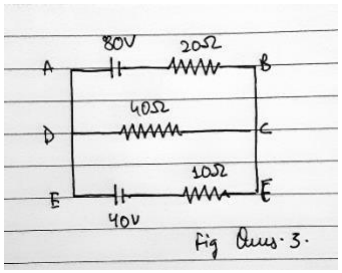


Fig Ques. 3.

Question 4. Which of the following characteristics of e- determines the current in a conductor?

a) Drift velocity alone b) thermal velocity alone c)Both drift and thermal velocity

d) neither drift nor thermal velocity

Question 5. What length of the wire (specific resistance 4.8×10^{-8}(ohm) is needed to make a resistance of 4ohm (diameter =0.4mm).

a) 1.1m b)2.1m c)3.1m d)4.1m

Question 6. A wire with 15ohm resistance is stretched by one tenth of its original length and volume of wire is kept constant. Then it's resistance will be.

a) 15.18 Ω b) 81.15 Ω c) 51.18 Ω d) 18.15 Ω

Question 7. There are two resistors R1 & R2 of 4Ω and 6Ω respectively. They are connected in parallel across a battery. Theratio of power dissipated in them, P1:P2 will be

a) 4:9 b) 3:2 c) 9:4 d) 2:3

Question 8. A uniform wire of resistance 2R is bent in the form of a circle the effective resistance between the ends of any diameter of the circle is:

a) 2R b) R c) R/2 d) R/4

Question 9. If a current of 0.5A flows in a 60W lamp, then the total charge passing through it in 2hrs will be

a) 1800C b)2400C c)3000C d)3600C

Question 10. A wire of resistance 4 Ω is stretched to twice of its original length. The resistance of stretchedwire would be

a) 2 Ω b)4 Ω c)8 Ω d)16 Ω

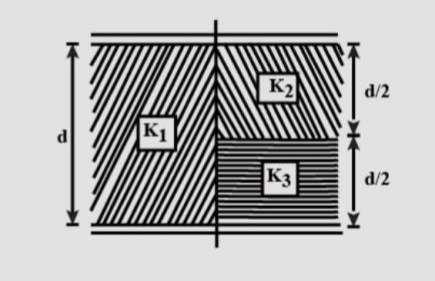
Question 11. The electric potential decreases uniformly from 120V to 80V as one moves on the axis fromX = -1cm to x= +1cm. The electric field at the origin will be

a) must be equal to 20Vcm^{-1}
b) may be equal to 20Vcm^{-1}
c) may be greater than 20Vcm^{-1}
d) may be less than 20Vcm^{-1}

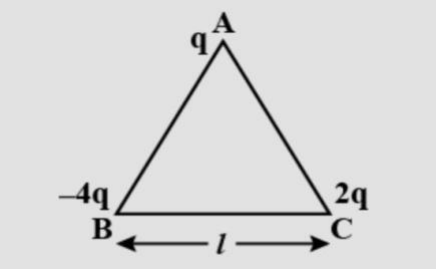
Question 12. The Potential at the origin is zero due to electrical field E= 20î +30j NC^{-1}. The Potential at point P(2m,2m) is

a) 100V b)-100V c)-140V d)140V

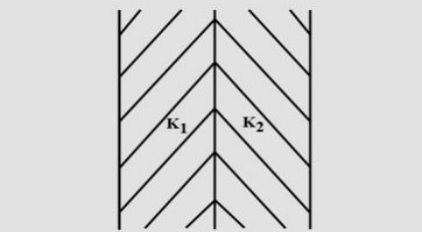
Question 13. The equivalent capacitance of the arrangement shown in figure, if A is the area of each plate.



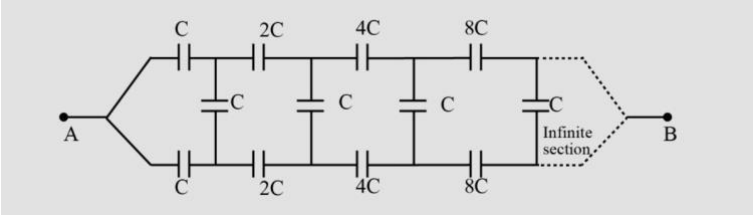
Question 14. (a) Three point charges q, -4q and 2q are placed at the vertices of an equilateral triangle ABC of side l' as shown in the figure. Obtain the expression for the magnitude of the resultant electric force acting on the charge q. (b) Find out the amount of the work done to separate the charges at infinite distance.



Questions 15. A parallel plate condenser is filled with two dielectrics as shown in figure. Area of each plate is A m² and the separation is d metre. The dielectric constants are K1 and K2 respectively. Its capacitance (in farad) will be:



Question 16. Find the equivalent capacitance in C of the circuit between A and B.

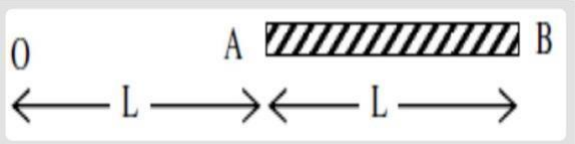


Question 17.

I) A sample of HCl gas is an electric field of $2.5\times10^{4}NC^{-1}$ The dipole moment of each HCl molecules is 3.4×10^{-30} cm. Find the maximum torque that can act on one molecule.

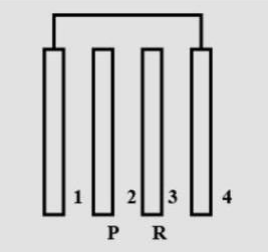
II) Two vertical and parallel metal plates having separation of 1cm are connected to DC voltage source of potential difference x. A proton is released t rest midway between the two plates.It remains at rest in the air then the value of x is.

Question 18. A charge Q is uniformly distributed over a long rod AB of length L as shown in the figure. The electric potential at the point O lying at a distance L from the end A is:

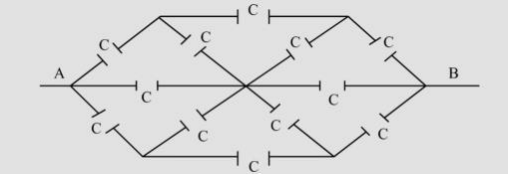


Question 19. In the given circuit , a charge of +80 micro C is given to the Upper plate of the 4 micro F capacitor. Then in the steady state, the charge on the upper plate of the 3 micro F capacitor is (figure is at end)?

Question 20. Four identical metal plates are placed in air parallel to each other with distance d from one another. the area of each plate is equal to A. The arrangement is shown in the figure. Find the capacitance of the system between plates P and R.



Question 21. Find the equivalent capacitance along C_{AB} in the figure given below



Question22. Two small spheres each of mass 10 mg are suspended form a point by threads 0.5m long. They areequally charged and repel each other to a distance of O.20m . The charge on each of the spheres is $a\times 10^{-8}$ C/21. Then what is the value of a ?

Question 23. Two identical conducting spheres with negligible volume have 2.1 nC and -0.1 nC charges, respectively. They are brought into contact and then separated by a distance of 0.5m the electrostatic force acting between the spheres is _____

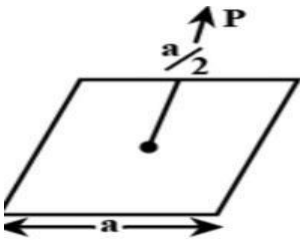
Question 24. Excess electrons are placed on a small lead spheres of mass 6.90 g so that it's net charge is -3.20×10^{-9} C. Find the number of excess electrons on the sphere.

Question 25. A heating element is marked 210 V, 630W. What is the current drawn by the element when connected to a 210V DC mains. What is the resistance of the element?

Question 26. A ring of charges with the radius 0.5 m has 0.002pie m gap. If the ring carries a charge of +1C. Determine the electric field at the center?

Question 27. A particle of mass 10^{-3} kg and charge 1.0 C, is initially at rest. At time t=0, the particle comes under the influence of an electric field $E(t)=E_0Sin(\omega t)$ î where E_0=1.0N/C and ω=1000rad/Sec. Consider the effect of only the electrical force on the particle. Then the maximum speed, in m/s, attained by the particle at subsequent times is _____.

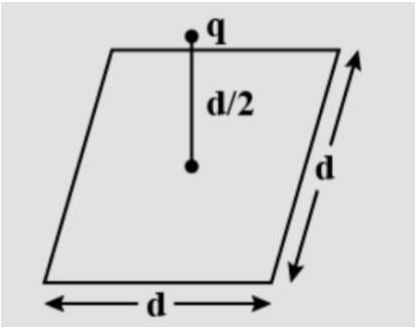
Question 28. A charge Q is placed at a distance a/2 above the centre of the square surface of edge a as shown in the figure. The electric flux through the square surface is:



Question 29. (a) Define electric flux. Is it a scalar or a vector quantity?

A point charge q is at a distance of d/2 directly above the centre of a square of side d, as shown in the figure. Use Gauss' law to obtain the expression for the electric flux through the square.

(b) If the point charge is now moved to a distance 'd' from the centre of the square and the side of the square is doubled, explain how the electric flux will be affected.

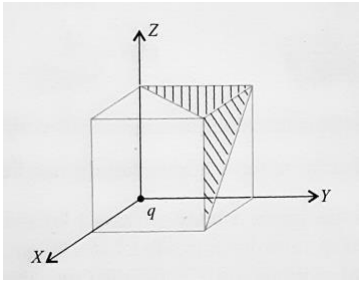


Question 30. A particle of charge 2μC and mass 1.6g is moving with a velocity 4 î m/s. At t=0 the particle enters in a region having an electric field E (in N/C)=80 î +60j. Find the velocity of the particle at t=5s.

Question 31. A parallel plate capacitor is set up. The plate area of capacitor is $2m^2$ and the plates are separated by 1m. If the space between the plates are filled with a dielectric material of thickness 0.5m and area $2m^2$, the capacitance of the set up will be (given dielectric constant of the material = 3.2).(figure is at the end)

Question 32. A charge 'q' is placed at one corner of a cube as shown in figure. The flux of the electrostatic field E through the shaded area is

a) $q/4£_o$ b)$q/24£_o$ c)$q/48£_o$ d)$q/8£_o$



Question 33. 512 identical drops of mercury are changed to a potential of 2V each. The drops are joined to form a single drop. The Potential of this drop is ?

Question 34. The series combination of two batteries, both of the same emf 10V, but different internal resistance of 20ohm and 5ohm is connected to the parallel combination of two resistor 30ohm and R ohm. The voltage difference across the battery of internal resistance 20ohm is zero, the value of R will be ?

Question 35. A particle of charge q and mass m is subjected to an electric field $E=E_o(1-ax^2)$ in the x direction, where a and E_o are constant. Initially the particle was at rest at x=0. Other than initial position the kinetic energy of the particle becomes zero when the distance of the particle from the origin is

a) $(2/a)^{1/2}$ b) $(1/a)^{1/2}$ c) a d) $(3/a)^{1/2}$

Question 36. Effective capacitance of a parallel combination of two capacitor C1 and C2 is 10 micro F. When these capacitor are individually connected to a voltage source of 1V, the energy stored in the capacitor C2 is 4 times that of C1. If these capacitor are connected in the series, their effective capacitance will be ?

Question 37.

1. A uniform electric field, $\vec{E} = -400\sqrt{3}\hat{j}\ NC^{-1}$ is applied in a region. A charged particle of mass m carrying positive charge q is projected in this region with an initial speed of $2\sqrt{10} \times 10^6\ ms^{-1}$. This particle is aimed to hit a target T, which is 5 m away from its entry point into the field as shown schematically in the figure. Take $\frac{q}{m} = 10^{10}\ Ckg^{-1}$. Then

(1) the particle will hit T if projected at an angle 45° from the horizontal

(2) the particle will hit T if projected either at an angle 30° or 60° from the horizontal

(3) time taken by the particle to hit T could be $\sqrt{\frac{5}{6}}\ \mu s$ as well as $\sqrt{\frac{5}{2}}\ \mu s$

(4) time taken by the particle to hit T is $\sqrt{\frac{5}{3}}\ \mu s$

Question 38. Two identical non-conducting solid spheres of same mass and charge are suspended in air from a common point by two non-conducting, massless strings of same length. At equilibrium, the angle between the strings is a. The spheres are now immersed in a dielectric liquid of density 800 kg m^{-3} and dielectric constant 21. If the angle between the strings remains the same after immersion, then

(1) electric force between the spheres remains unchanged

(2) electric force between the spheres reduces

(3) mass density of the spheres is 840 kg m^3

(4) the tension in the strings holding the spheres remains unchanged

Question 39. An electric motor on a 50V supply and draws a current of 12A. If the motor yields a mechanical power of 150W. What is the percentage efficiency of the motor?

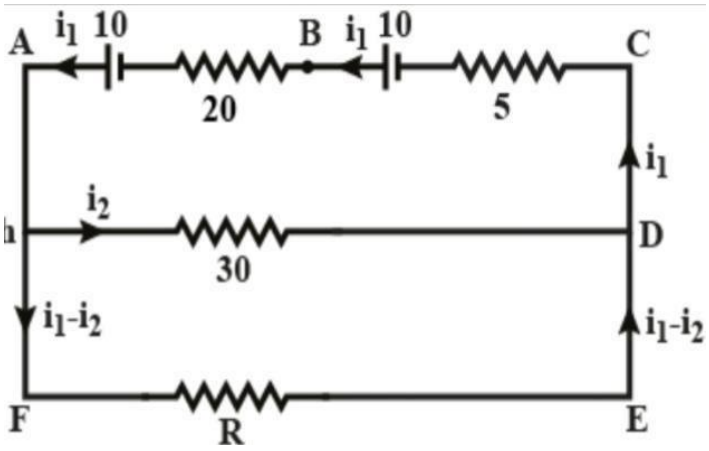
Question 40. A battery EMF E and internal resistance r gives a current of 0.25A with an external resistor of 12 Ω and current of 0.25A with an external resistor of 25 Ω. calculate:

i) Internal resistance of the cell ii) EMF of the cell

Question 41. 27 similar drops of mercury are maintained at 10 V each. All these spherical drops combine into a single big drop. The Potential energy of the bigger drop is_____times that of the smaller drop.

Question 42. A point charge of +12 micro F is at a distance 6 cm vertically above the centre of a square of side 12 cm as shown in the figure. The magnitude of the electric flux through the square will be _____

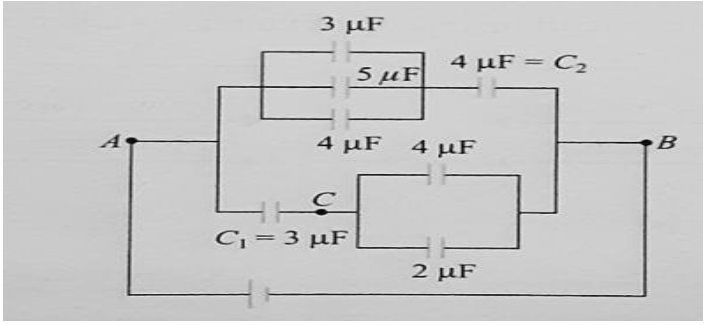
Question 43. The series combination of two batteries, both of the same emf 10V, but different internal resistance of 20Ω and 5Ω, is connected to the parallel combination of two resistors 30Ω and R Ω. The voltage difference across the battery of internal resistance 20Ω is zero, the value of R (in Ω is_____).



Question 44. Figure shows a network of seven capacitors. If charge on 5 µF capacitor is 10 µC, find the potential difference between points A and C

Question 45. A capacitor with stored energy 4.0 J is connected with an identical capacitor with no electric field In between. Find the total energy stored (J) in two capacitor.

Question 46. A photographic flash unit consists of a xenon filled tube. It gives of average power 2000W for 0.04s. The flash is due to discharge of a fully charged capacitor of 40 micro F. The voltage to which it is charged before a flash is given by the unit is.



Question 47. A potential difference of 6V is applied across a conductor of length 0.12m. Calculate the drift velocity of electron. If electron mobility is 5.6 X $10^{-6}m^2/V/Sec$.

Question 48. An electron traveling in a uniform electric field passes from a region of potential V_1 to a region of higher potential V_2 Then.

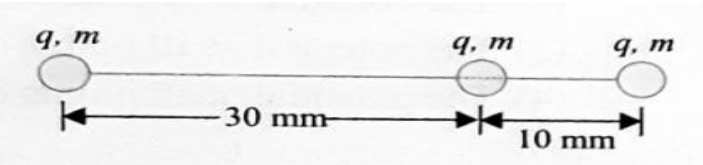
(a) no change takes place in velocity component parallel to interface of two regions.

(b) direction of its motion remains unchanged but speed increases

(c) direction of its motion may change but speed must be decreased

(d) decrease in kinetic energy is proportional

Question 49. Two small spheres are attached to the ends of a long light non conducting rod at a distance 40 mm from each other. A third, middle sphere can slide along the rod without friction as shown. All three spheres are non-conducting, have identical masses m = 1g , and a positive charge q = 1C is distributed evenly on the surface of each sphere. The whole system is placed on a horizontal frictionless non conducting surface. Initially, all three spheres are at rest and the middle sphere is located a distance 30 mm from one of the ends of the rod and a distance 10 mm from the other. Find the maximum speed r(in ms^{-1}) of the middle sphere after the system is released.



Question 50. The resistance of a wire is R Ω. What will be its new resistance if it is stretched to n-times to its original length.

Figure of Question 31

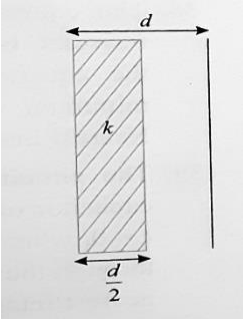
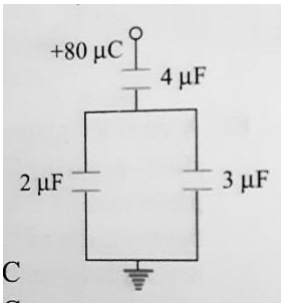


Figure of Question 19



Holiday Homework
Class 12 Hum. and Comm.

1. Read the following essays/articles and write a review on any two.
i. On Doing Nothing - J.B. Pristley
ii.Selected Snobberies - Aldous Huxley
iii.The Ailing Planet - Nani Palkhivala
iv.On Finding Things - E. V. Lucas
2. Make a video of at least 10-15 minutes describing the place you visit in summer vacation.
3.Write your own original travelogues/stories/poems/articles/essays etc.for your school magazine.

Sub: Music (Vocal)
Class 12
Holiday homework

1- What is Alankar? Write five Alankaar in raag Bageshri.
2- Write 10 important characteristics of 'Sangeet Ratnakar'.
3 . Write Tigun of Rupak taal .
4- Write six Taan of raag Bageshri in Mandra , madhya and taar saptak.
5 - ' Music is the best medicine of mind' describe it.

ग्रीष्मावकाश कार्य

कक्षा-द्वादश

विषय- हिन्दी

परियोजना कार्य

1- जयशंकर प्रसाद की कामायनी से किसी भी सर्ग से आठ पंक्ति लिखकर उसका अर्थ लिखो।

2- कोरोना महामारी पर स्वरचित कविता लिखो।

3- आधुनिक जनसंचार माध्यम को चार्ट पर दर्शाये।

नोट- फाइल कवर-काला

Class XII Informatics Practices

DataFrame Problems

1. To change the 5th column's value at 3rd row as 35 in dataframe DF, you can write ……

2. To get the transpose of a dataframe DF, you can write……

3. To get top 5 rows of a dataframe, you may use…….. function.

4. The axis 0 identifies a dataframe's …….

5. To get the number of elements in a dataframe…….. attribute may be used.

6. Carefully read the following code-

```
import pandas as pd
yr1={ 'Qtr1' : 44900, 'Qtr2' : 46100, 'Q3' : 57000, 'Q4': 59000}
yr2= { 'A' : 54500, 'B' : 51000, 'Qtr4' :57000}
disales1={ 1: yr1 , 2: yr2}
df3=pd.DataFrame(disales)
```

i) list the index labels of the DataFrame df3

ii) List the column names of DataFrame df3

7. Consider the saleDf shown below-

	Target	Sales
ZoneA	56000	58000
ZoneB	70000	68000
ZoneC	75000	78000
ZoneD	60000	61000

Write a statement to add a column namely Orders having values 6000,6700,6200 and 6000 respectively for the Zone A,B,C and D. Assume that Pandas library has been imported as pd and the dataframe saleDf is available.

8. Explain what the following statements are doing? df is the name of a DataFrame.

i) df.iloc [: 5 ,] ii) df.iloc [1: 5 ,] iii) df.iloc[5 ,0] iv) df.iloc [1 :5 , 0]

v) df.iloc [1 :5 , : 5] vi) df.iloc [2 :7 , 1:3]

9. What is the difference between iloc and loc with respect to a DataFrame?

10. Consider the following dataframe, namely Sdf, given below and answer questions.

	StudentID	Homework	Midterm	Project	Final
0	4560	100	97	100	95
1	5540	85	90	88	90
2	6889	92	85	88	87
3	6817	65	85	87	89

I) Display only the first three columns of the dataframe.

ii) Which of the following commands will give the output as shown below?

	StudentID	Homework
1	5540	85
2	6889	92
3	6817	65

iii) The principal wants to know the details of the students who have scored at least 90% in the Final marks percentage. Which of the following set of commands will yield the desired result?

a) Print(Sdf [‘Final’ >=90] b)print(Sdf[Sdf[‘Final’] >=90])

c) tmp=Sdf [Sdf [‘Final’] >=90] d) print(Sdf[‘Final’] >=90)
print(tmp)

iv) The programmer wants to calculate how many students’ details are stored in the dataframe. Which of the following commands will yield the number of records in each column of the dataframe?

a) Sdf.count(axis=1) b) pd.count(Sdf.columns)

c) Sdf.count() d) pd.count(Sdf)

v) What will the following statement yield?

Sdf.Midterm > 90

11. Consider a dataframe df as shown below and answer the questions given below-

	Col1	Col2	Col3	Col4
a	1.0	1	20.0	22.0
b	2.0	2	40.0	44.0
c	3.0	3	60.0	66.0
d	4.0	4	NaN	NaN
e	5.0	5	NaN	NaN
f	NaN	6	NaN	NaN

a) Write a command to create a new dataframe namely ndf that stores only the first three rows and columns ‘Col2’ and ‘Col3’ from the above given dataframe df.

b) Write a command to display only the records where the value stored in ‘Col3’ is more than 30.

c) Write a command to count the number of non-null values stored in

I) Different columns of the dataframe df

ii) Different rows of the dataframe df.

d) Write a command to print the average value of each column.

e) Write a command to display the row storing the maximum value of column ‘Col1’.

12. Given a DataFrame mdf as shown below. Answer the questions-

	C1	C2	C3
0	13	23	37
1	19	20	21
2	11	12	13
3	13	14	15

a) Write code to create a new dataframe n1 that stores the values of dataframe multiplied by 3.

b) Write code to add a column ‘C4’ in the dataframe n1, which stores the difference of column ‘C3’ with column ‘C2’ from the dataframe n1.

c) Write code to drop the column ‘C4’ from the dataframe n1. The dataframe should be modified after this statement.

d) Write code to drop the index 2 from the dataframe n1. The dataframe should be modified after this statement.

e) Write code to display the sum of rows with indexes 2 onwards from the dataframe mdf.

13. A dataframe namely Result stores the details of students marks in different subjects for a class of 50 students. The records are arranged in the descending order of total marks obtained by a student-

	Eng	IP	Maths
23	77	78	78
11	82	85	67
22	55	66	66
34	66	76	73
9	78	60	44

i) Write a statement to print the five least scoring students’ details
ii) Write a statement to get the maximum marks stored in subject IP
iii) Write a statement to print the details of the student who scored maximum marks in the subject ‘Eng’
iv) Write a statement to print the three highest scoring students.
v) Write a statement to display the marks scored by a student with roll number 22 in the subject ‘Maths’.
vi) Write a statement to sort the Df according to ‘IP’ in ascending order.
vii) Statement to rename the column ‘Eng’ to ‘English’ and ‘Maths’ to ‘Mathematics’.

AVADH INTERNATIONAL SCHOOL
HISTORY HOLIDAY HOMEWORK CLASS -XII 2023-2024

Project Topics -are as mentioned below choose any one of them and prepare the project file

1.The Indus Valley civilization: The Archaeological Excavations and findings.
2.The History and legacy of the Mauryan Empire.

3.Bhakti Movement: Interpretations and commentaries.

4.The Mystical Dimensions of Sufism.

5.The Architectural Culture of the Vijaynagar Empire.

6.Mauryas : The Empire Builders.

7.Harappa as Representation of True Indian Culture.

8.The process behind framing Indian Constitution.

9.Buddha' s Path of Enlightenment.

10.Mahabharat: As an Epic

11.An Analytical study of the Mahabharata : As an epic

GUIDELINES FOR THE PROJECTS:

It must be emphasized that the process of doing the project is as important as the final project.

Once the project/projects are chosen, there should be a process of brainstorming to make out a draft/structure for the project before embarking on research.

Internet sites could be referred, but care must be taken in selecting, using and citing these sites.

Avoid plagiarism

Marks to be awarded for content and originality and not for decorative elements and embellishments.

Projects must be the original work of the student.

Project may be supported by- Data, fact sheets, maps, articles, newspaper clips

Maximum of 25-30 page projects.

Avadh International School
Holiday Homework Class – XII Subject: Political Science

Objective: - To enable the students to know about the inventions of new concepts in world politics and constitution of India.

- To develop 21st century managerial skills of co-ordination, self-direction and time management.
- To understand contemporary political issues in context to our past. To develop a global perspective and an international outlook

Assignment: - Project Work

Project Ideas/Topics

- Relevance of SAARC as a forum of regional cooperation. U.S. dominance in World politics in the Post-Cold War era
- India's role in Non Aligned Movement.
- Civil Society Movements - Role and participation in India.
- Relevance of the United Nations in a Unipolar World.
- Understanding Resource Geopolitics and Environment degradation
- India's external relations -Critical analysis of the foreign policy of India especially with its immediate neighbours (Pakistan, China, Srilanka, Nepal, Myanmar) Popular movements in the Post-Independence era and their outcomes.
- Project on the role played by the regional aspirations in backing the secessionist and insurgency movement in India India's response to ASEAN as a dialogue partner.

GUIDELINES FOR THE PROJECTS:

It must be emphasized that the process of doing the project is as important as the final project. Once the project/projects are chosen, there should be a process of brainstorming to make out a draft/structure for the project before embarking on research.

Internet sites could be referred, but care must be taken in selecting, using and citing these sites.

Avoid plagiarism

Marks to be awarded for content and originality and not for decorative elements and embellishments.

Projects must be the original work of the student.

Project may be supported by- Data, fact sheets, maps, articles, newspaper clips Maximum of 25-30 page projects.

Guidelines for Project Work

The expectations of the project work are as follows-

1. Students have to complete only one project in each academic session from the above five topics.
2. Project should be hand written
3. It will be an independent, self-directed piece of study

Scope of the project

Learners may work upon the following lines as suggested following

1. Choose a title/topic
2. Certificate
3. Acknowledgement
4. Index
5. Introduction
6. Main event, Origin, history, identify the causes, consequences, and remedies
7. Validity, reliability of case study used for the project
8. Report Writing
9. Draw the relevant Conclusion
10. Bibliography

General Instructions for assignment questions /worksheet (1-4)

1) The work should be done neatly and in a systematic way.
2) The given questions are to be done in your respective subject notebooks.

Worksheet-1

Q.1Why the Warsaw Pact was also called the 'Eastern Alliance'?
Q.2 Mention two points of Shimla Agreement.
Q.3 What is meant by 'ASEAN Way'?
Q.4 What is Battle of Iwo Jima?
Q.5 What is CIS?
Q.6 What do you understand by 9/11?
Q.7 What was the 'Marshall Plan'?
Q.8 Who told that "The United Nations was not created to take humanity to heaven, but to save it from hell"?
Q.9 What is Terrorism?
Q.10 What is 'Global Commons'?

Worksheet-2

Q.1What is Globalisation?
Q.2Mention the kinds of reforms that the UN is facing today.
Q.3What is security?
Q.4 Which two republics had violent secessionist movements in Russia?
Q.5 What is NATO and when it was established?
Q.6 What do you understand by the 'bandwagon' strategy?
Q.7 What are the objectives of ASEAN Economic Community?
Q.8 What was the Cuban Missile Crisis?

Worksheet -3

Q.1 As a citizen of India, how would you support India's candidature for the permanent membership of the Security Council? Justify your proposal.

Q.2.In what respect the security challenges facing the newly-independent countries of Asia and Africa were different from the challenges in Europe? Explain.

Q.3 The most serious challenges before the states is pursuing economic development without causing further damage to the global environment. How could we achieve this? Explain with a few examples.

Q.4 Mention two areas each of cooperation and disagreement between India and Bangladesh.

Q.5 What were the major consequences of the Shock therapy on the old system of social welfare of USSR?

Q.6 What are the constraints on American hegemony today? Which one of these do you expect to get more important in the future?

Q.7 Examine the political and economic diplomatic influence of EU.

Q.8 Explain " the logic of deterrence" in detail.

Worksheet-4

Q.1 What do you think about the statement that NAM has become irrelevant today. Give reasons to support your opinion.

Q.2 Discuss any three features that distinguish the Soviet economy from that of a capitalist country like the US?

Q.3 Give an example each of the three kinds of hegemony that are dealt with in the chapter. Do not cite examples that are in the chapter.

Q.4 'Reforming the UN means restructuring of the Security Council'. Do you Agree with this statement? Give arguments for or against this position.

Q.5 Nuclear weapons as deterrence of defence have limited usage against contemporary security threats to state. Explain the statement.

Q.6 Write a short note on the role and the limitations of SAARC as a forum for facilitating economic cooperation among the South Asian countries.

Q.7 Examine Indo-Pak relations in the light of recent developments.

Q.8 Discuss India's relations with Bangladesh.