

09.10.19 Special Test – Chemistry Marks: 50
Std: XII (A-C) FN Time: 1½ Hrs

- I. Choose the correct answer: 10x1=10
- Which one given below is a non-reducing sugar?
a) Glucose b) Sucrose c) Maltose d) Lactose
 - The carbohydrate which rotates the plane polarized light towards left is _____.
a) D (+) glucose b) L (+) glucose c) D (-) Fructose
d) D (+) galactose
 - Complete hydrolysis of cellulose gives _____.
a) L-glucose b) D-Fructose c) D-Ribose d) D-Glucose
 - Glucose is an aldose. Which one of the following reactions is not expected with glucose?
a) It does not form oxime
b) It does not react with Grignard reagent
c) It does not form osazones
d) It does not reduce Tollen's reagent
 - α -D(+) glucose and β -D(+) glucose are _____.
a) Epimers b) Anomers c) Enantiomers
d) Conformational isomers
 - Which of the following are epimers?
a) D(+) glucose and D(+) galactose
b) D(+) glucose and D(+) mannose
c) neither (a) nor (b) d) both (a) and (b)
 - _____ is the polysaccharide, which is the major component of cell wall.
a) Sucrose b) Starch c) Cellulose d) Inulin
 - The number of primary and secondary alcoholic groups present in fructose is _____.
a) 2, 3 b) 3, 2 c) 2, 4 d) 4, 2
 - The study of chemistry behind biological processes is _____.
a) Green chemistry b) Biochemistry
c) Chemistry in daily life d) Organic chemistry
 - The general molecular formula for carbohydrates is _____.
a) C_nH_{2n} b) C_nH_{2n+2} c) $C_n(H_2O)_n$ d) C_nH_2O

- II. Answer any 6 of the following: 6x2=12
- What are carbohydrates? Give example.
 - Why carbohydrates are generally optically active?
 - Classify the following into monosaccharides, oligosaccharides and polysaccharides.
a) Starch b) Inulin c) Maltose d) Fructose
 - Write the structure of α -D (+)glucopyranose.
 - Give the preparation of fructose.
 - Write the equation for the reaction of glucose with Conc.HI.
 - Give the structure of glucose and fructose.
- III. Answer any 6 of the following: 6x3=18
- Explain the oxidation of glucose by bromine water.
 - Give the preparation of fructose from inulin.
 - What is mutarotation?
 - Write a note on Cellulose.
 - Explain the reduction of fructose with sodium amalgam.
 - What are polysaccharides? Explain the type with example.
 - Give reason: Sucrose is a non-reducing sugar.
- IV. Answer any 2 of the following: 2x5=10
- Give the importance of carbohydrates.
 - Explain the classification of carbohydrates.
 - Deduce the structure of glucose.

09.10.19 Special Test – Computer Science Marks: 50
 Std: XII (B,D,E) AN Time: 1½ Hrs

I. Choose the correct answer: 10x1=10

1. CSV stands for _____.
 a) Comma separated values b) Common separated values
 c) Comma spreadsheet value d) all the above
2. CSV file is also known as _____.
 a) spreadsheet b) flat file c) interpreter language d) none
3. Each line in a CSV files has a number of _____.
 a) field b) row c) file d) delimiter
4. Each record is to be located on a separate line, delimited by a line break by pressing _____.
 a) shift key b) ctrl key c) enter key d) none
5. The last record in the file may or may not have an ending _____.
 a) line break b) semicolon c) delimiter d) none
6. By default delimiter is _____.
 a) ; b) () c) : d) ,
7. By default CSV files should open automatically in Excel when the file is _____ clicked.
 a) single b) double c) left d) drag
8. _____ statement ensures that the file is closed when the block inside with is exited.
 a) for b) with c) do-while d) if
9. By default 'skipinitialspace' has a value _____.
 a) True b) False c) 0 d) 1
10. _____ is considered as column separator.
 a) = b) , c) : d) 1

II. Answer the following: 6x2=12

11. What is CSV file?
12. What is the purpose of CSV files?
13. What are the steps to be followed for the file operation in python?
14. Write a note on text mode and binary mode.
15. Define dialect function.
16. What is the main purpose of "skipinitialspace"?

III. Answer the following: 6x3=18

17. Write about the python file modes.
 18. Write the syntax of CSV module's reader function.
 19. Write the usage of 'with' statement.
 20. Why CSV files are used in e-commerce application?
 21. What are the CSV modules?
 22. What happens if the data itself contains commas in it?
- IV. Answer in detail: 2x5=10
23. Difference between CSV and XLS files formats.
 24. What are the different methods to read a file?

09.10.19 Special Test – Commerce Marks: 50
 Std: XII (F, G) FN Time: 1½ Hrs

I. Choose the correct answer: 6x1=6

1. Who is the father of Consumer Movement?
 a) Ralph Nader b) Mahatma Gandhi
 c) Mr. John F Kennedy
2. The Consumer Protection Act came into force with effect from
 a) 1.4.1986 b) 15.04.1987 c) 01.01.1986
3. _____ day is known for Consumer Protection Day.
 a) April 15 b) August 15 c) March 15
4. The term consumerism came into existence in the year _____.
 a) 1957 b) 1960 c) 1954
5. Sale of Goods Act was passed in the year?
 a) 1982 b) 1985 c) 1962
6. The General Assembly of United Nations passed resolution of consumer protection guidelines on _____.
 a) 1986 b) 1988 c) 1985

II. Fill in the blanks: 5x1=5

7. Caveat _____ means let the buyer beware.
8. Coffee powder is adulterated with _____.
9. Mention three parties involved in the sphere of business transactions _____, _____ and _____.

III. Match the following: 4x1=4

- | | | |
|--|---|------|
| 10. The Trademark Act | - | 1940 |
| 11. The Public Liability Insurance Act | - | 1999 |
| 12. Indian Standard Institution Act | - | 1991 |
| 13. The Drugs and Cosmetics Act | - | 1952 |

IV. Answer any 5 of the following: 5x2=10

14. Explain COPRA.
15. Define consumerism.
16. What is meant by “let the seller beware”?
17. Write the quote about consumerism given by “Mahatma Gandhi”.
18. Who is a consumer?
19. Mention 4 ways in which consumers are exploited.

V. Answer any 5 of the following: 5x3=15

20. Write any 3 important legislations related to consumerism in India.
21. What is meant by artificial scarcity?
22. Explain the role of government in consumer protection.
23. Explain the role of business in consumer protection.
24. Explain the role of consumers in consumer protection.
25. What are the objectives of United Nations guidelines for consumer protection?

VI. Answer the following: 2x5=10

26. What are the objectives of COPRA 1986?
27. Explain 5 ways, how consumers are exploited?

09.10.19

Special Test – Mathematics

Marks: 50

Std: XII (D,E) FN

Time: 1½ Hrs

I. Choose the correct answer:

10x1=10

- The radius of the circle $3x^2+by^2+4bx-6by+b^2=0$ is _____.
 a) 1 b) 3 c) $\sqrt{10}$ d) $\sqrt{11}$
- The eccentricity of the hyperbola whose latus rectum is 8 and conjugate axis is equal to half the distance between the foci is
 a) $\frac{4}{3}$ b) $\frac{4}{\sqrt{3}}$ c) $\frac{2}{\sqrt{3}}$ d) $\frac{3}{2}$
- The equation of the circle passing through the foci of the ellipse $\frac{x^2}{16}+\frac{y^2}{7}=1$ having centre at (0, 3) is
 a) $x^2+y^2-6y-7=0$ b) $x^2+y^2-6y+7=0$ c) $x^2+y^2-6y-5=0$
 d) $x^2+y^2-6y+5=0$
- Area of the greatest rectangle inscribed in the ellipse $\frac{x^2}{a^2}+\frac{y^2}{b^2}=1$ is
 a) 2ab b) ab c) \sqrt{ab} d) $\frac{a}{b}$
- The value of m for which the line $y=mx+2\sqrt{5}$ touches the hyperbola $16x^2-9y^2=144$ are the roots of $x^2-(a+b)x-4=0$, then the value of (a+b) is
 a) 2 b) 4 c) 0 d) -2
- If P(x,y) be any point on $16x^2+25y^2=400$ with foci $F_1(3,0)$ and $F_2(-3, 0)$ then PF_1+PF_2 is
 a) 8 b) 6 c) 10 d) 12
- If $x+y=k$ is a normal to the parabola $y^2=12x$, then the value of k is
 a) 3 b) -1 c) 1 d) 9
- The eccentricity of the ellipse $(x-3)^2+(y-4)^2=\frac{y^2}{9}$ is

- a) $\frac{\sqrt{3}}{2}$ b) $\frac{1}{3}$ c) $\frac{1}{3\sqrt{2}}$ d) $\frac{1}{\sqrt{3}}$

- The equation of the normal to the circle $x^2+y^2-2x-2y+1=0$ which is parallel to the line $2x+4y=3$ is
 a) $x+2y=3$ b) $x+2y+3=0$ c) $2x+4y+3=0$ d) $x-2y+3=0$
 - If the two tangents drawn from a point P to the parabola $y^2=4x$ are at right angles then the locus of P is
 a) $2x+1=0$ b) $x=-1$ c) $2x-1=0$ d) $x=1$
- II. Answer any 5 of the following: 5x3=15
- A particle acted on by constant forces $8\vec{i}+2\vec{j}-6\vec{k}$ and $6\vec{i}+2\vec{j}-2\vec{k}$ is displaced from the point (1,2,3) to the point (5,4,1). Find the total workdone by the forces.
 - Prove by vector method that an angle in a semi-circle is a right angle.
 - A particle is acted upon by the forces $3\vec{i}-2\vec{j}+2\vec{k}$ and $2\vec{i}+\vec{j}-\vec{k}$ is displaced from the point (1,3,-1) to the point (4,-1, λ). If the work done by the forces is 16 units, find the value of λ .
 - The parabolic communication antenna has a focus at 2m distance from the vertex of the antenna. Find the width of the antenna 3m from the vertex.
 - A search light has a parabolic reflector has a cross section that forms a 'bowl'. The parabolic bowl is 40cm wide from rim to rim and 30cm deep. The bulb is located at the focus
 i) What is the equation of the parabola used for reflector?
 ii) How far from the vertex is the bulb to be placed so that the maximum distance covered?
 - The maximum and minimum distances of the Earth from the sun respectively are 152×10^6 Km and 94.5×10^6 Km. The sun is at

one of focus of the elliptical orbit. Find the distance from the sun to the other focus.

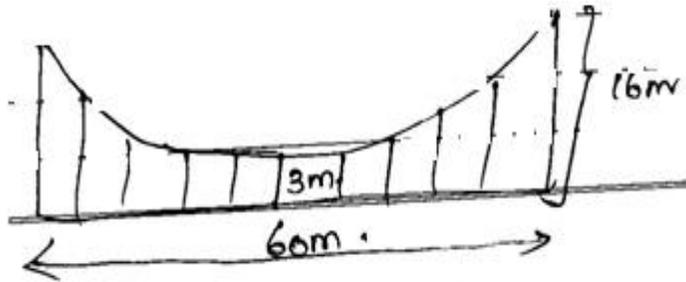
III. Answer any 5 of the following: 5x5=25

17. Prove by vector method: $\cos(\alpha+\beta)=\cos \alpha \cos \beta-\sin \alpha \sin \beta$

18. Prove by vector method $\sin(\alpha-\beta)=\sin \alpha \cos \beta - \cos \alpha \sin \beta$

19. Parabolic cable of a 60m portion of the roadbed of a suspension bridge are positioned as shown below. Vertical cables are to be spaced every 6m along this portion of the roadbed.

Calculate the lengths of first two of those vertical cables from the vertex.



20. A bridge has a parabolic arch that is 10m high in the centre and 30m wide at the bottom. Find the height of the arch 6m from the centre, on either sides.

21. On lighting a rocket cracker it gets projected in a parabolic path and reaches a maximum height of 4m when it is 6m away from the point of projection. Finally it reaches the ground 12m away from the starting point. Find the angle of projection.

22. Assume that water issuing from the end of a horizontal pipe, 7.5 m above the ground, describes a parabolic path. The vertex of the parabolic path is at the end of the pipe. At a position 2.5m below the line of the pipe, the flow of water has curved outward

3m beyond the vertical line through the end of the pipe. How far beyond this vertical line will the water strike the ground?

09.10.19 Special Test – Business Maths Marks: 50
 Std: XII (H-J) FN Time: 1½ Hrs
 I. Choose the correct answer: 10x1=10

- If c is a constant, then $E(c)$ is _____
 a) 0 b) 1 c) $c f(c)$ d) c
- $E[x-E(x)]$ is equal to _____
 a) $E(x)$ b) $V(x)$ c) 0 d) $E(x)-x$
- A variable that can assume any possible value between two points is called _____
 a) Discrete random variable b) Cumulative probability
 c) Marginal probability d) Random variable

4. If $f(x) = \begin{cases} kx^2, & 0 < x < 3 \\ 0, & \text{elsewhere} \end{cases}$
 is a p.d.f then the value of k is _____.

- a) $\frac{1}{9}$ b) $\frac{1}{6}$ c) $\frac{1}{3}$ d) $\frac{1}{12}$

5. An expected value of a random variable is equal to its _____.
 a) variance b) covariance c) Standard deviation d) Mean

II. Answer any 5 of the following: 5x2=10

6. The discrete random variable x has the probability function

X	1	2	3	4
P(X=x)	K	2K	3K	4K

Show that $K=0.1$

- What are the properties of (i) Discrete random variable (ii) continuous random variable.
- Let x be a continuous random variable with probability density function
 $f_x(x) = \begin{cases} 2x, & 0 \leq x \leq 1 \\ 0, & \text{otherwise} \end{cases}$

- Let x be a random variable and $Y=2x+1$. What is the variance of Y if variance of x is 5?
- Determine whether the following is a probability distribution of a random variable x .

X	0	1	2
P(x)	0.6	0.1	0.2

11. The following information is the probability distribution of successes.

No. of successes	0	1	2
Probability	$\frac{6}{11}$	$\frac{9}{22}$	$\frac{1}{22}$

Determine the expected number of success.

III. Answer any 5 the following: 5x3=15

- Two coins are tossed simultaneously. Getting a head is termed as success. Find the probability distribution of the no. of successes.
- State the properties of Mathematical expectation.
- In a business venture a man can make a profit of Rs.2000 with a probability of 0.4 or have a loss of Rs.1000 with a probability of 0.6. What is his expected, variance and standard deviation of profit?
- The length of time (in minutes) that a certain person speaks on the telephone is found to be random phenomenon, with a probability function specified by the probability density function $f(x)$ as $f(x) = \begin{cases} Ae^{-\frac{x}{5}}, & \text{for } x \geq 0 \\ 0, & \text{otherwise} \end{cases}$
 a) Find the value of A
 b) What is the probability that the number of minutes that person will talk over the phone between 5 and 10?

16. A person tosses a coin and is to receive Rs.4 for a head and is to pay Rs.2 for a tail. Find the expectation and variance and standard deviation of his gain.

17. A continuous random variable x has p.d.f $f(x)=5x^4$, $0 \leq x \leq 1$

Find a_1 and a_2 such that

i) $p[x \leq a_1] = p[x > a_1]$

ii) $p[x > a_2] = 0.05$

IV. Answer any 4 of the following:

$$4 \times 5 = 20$$

18. Let x be a continuous random variable with probability density function

$$f(x) = \begin{cases} \frac{3}{x^4}, & x \geq 1 \\ 0, & \text{otherwise} \end{cases}$$

Find the mean and variance of x .

19. Suppose that the time in minutes that a person has to wait at a certain station for a train is found to be random phenomenon with a probability function specified by the distribution function.

$$F(x) = \begin{cases} 0, & \text{for } x \leq 0 \\ \frac{x}{2}, & \text{for } 0 \leq x < 1 \\ \frac{1}{2}, & \text{for } 1 \leq x < 2 \\ \frac{x}{4}, & \text{for } 2 \leq x < 4 \\ 1, & \text{for } x \geq 4 \end{cases}$$

a) Is the distribution function continuous? If so, give its probability density function?

b) What is the probability that a person will have to wait
(i) more than 3 minutes, ii) less than 3 minutes and
(iii) between 1 and 3 minutes?

20. The distribution of a continuous random variable x in range $(-3, 3)$ is given by p.d.f

$$f(x) = \frac{1}{16} (3+x)^2, \quad -3 \leq x \leq -1$$

$$\frac{1}{16} (6-2x^2), \quad -1 \leq x \leq 1$$

$$\frac{1}{16} (3-x)^2, \quad 1 \leq x \leq 3$$

Verify that the area under the curve is unity.

21. Define random variable, explain its types and properties of DRV and CRV.

22. The number of miles an automobile time lasts before it reaches a critical point in tread wear can be represented by a p.d.f

$$f(x) = \begin{cases} \frac{1}{30} e^{-\frac{x}{30}}, & \text{for } x > 0 \\ 0, & \text{for } x \leq 0 \end{cases}$$

Find the expected number of miles (in thousands) and variance of a time would last until it reaches the critical tread wear point.

I. Choose the correct answer:

5x1=5

1. On retirement of a partner, general reserve is transferred to the _____.
 - a) Capital account of all the partners
 - b) Revaluation account
 - c) Capital account of the continuing partners
 - d) Memorandum revaluation account
 2. On revaluation the increase in liabilities leads to _____.
 - a) Gain
 - b) Loss
 - c) Profit
 - d) None of these
 3. If the final amount due to a retiring partner is not paid immediately, it is transferred to _____.
 - a) Bank Account
 - b) Retiring partner's capital Account
 - c) Retiring partner's loan Account
 - d) Other partner's capital Account
 4. A, B and C are partners sharing profits in the ratio of 2:2:1. On retirement of B, goodwill of the firm was valued as ₹ 30,000. Find the contribution of A and C to compensate B:
 - a) ₹20,000 and ₹10,000
 - b) ₹ 8,000 and ₹4,000
 - c) ₹ 10,000 and ₹ 20,000
 - d) ₹ 15,000 and ₹15,000
 5. A, B and C are partners sharing profit in the ratio of 4:2:3, C retires. The new profit sharing ratio between A and B will _____.
 - a) 4:3
 - b) 3:4
 - c) 2:1
 - d) 1:2
- II. Answer the following: 5x2=10
6. Dheena, Surya and Janaki are partners sharing profits and losses in the ratio of 5:3:2. On 31/3/2018, Dheena retired. On the date of retirement, the books of the firm showed a reserve fund of ₹ 50,000. Pass journal entry to transfer the reserve fund.
 7. Vinoth, Karthi and Pranav are partners sharing profits and losses in the ratio of 2:2:1. Pranav retires from partnership on 1st April 2018. The following adjustments are to be made.

i) Increase the value of land and building by ₹ 18,000

ii) Reduce the value of machinery by ₹ 15,000

iii) A provision would also be made for outstanding expenses for ₹ 8,000.

Give journal entries.

8. Kayal, Mala and Neela are partners sharing profits in the ratio of 2:2:1. Kayal retires and the new profit sharing ratio between Mala and Neela is 3:2. Calculate the gaining ratio.
 9. Mani, Gani and Soni are partners sharing the profits and losses in the ratio of 4:5:6. Mani retires from the firm. Calculate the new profit sharing ratio and gaining ratio.
 10. Rajan, Suman and Jegan were partners in a firm sharing profits and losses in the ratio of 4:3:2. Suman retires from partnership. The goodwill of the firm on the date of retirement was valued at ₹45,000 pass necessary journal entries for goodwill on the assumption that the fluctuating capital method is followed.
- III. Answer all the following: 3x5=15
11. Balu, Chandru and Nirmal are partners in a firm sharing profits and losses in the ratio of 5:3:2. On 31st March 2018, Nirmal retires from the firm. On the date of Nirmal's retirement, goodwill appeared in the books of the firm at ₹ 60,000. By assuming fluctuating capital account, pass the necessary journal entry if the partners decide to _____.
 - a) Write off the entire amount of existing goodwill
 - b) Write off half of the existing goodwill
 12. Rani, Jaya and Rathi are partners sharing profits and losses in the ratio of 2:2:1. On 31/03/18, Rathi retired from the partnership. Profit of the preceding years is as follows. Find out the share of profit of Rathi for the year 2018 till the date of retirement if
 - a) Profit is to be distributed on the basis of the previous year's profit.
 - b) Profit is to be distributed on the basis of the average profit of the past 4 years. Also pass necessary journal entries by assuming partners capitals are fluctuating.

13. Kavin, Madhan and Ranjith are partners sharing profits and losses in the ratio of 4:3:3 respectively. Kavin retires from the firm on 31st Dec 2018. On the date of retirement, his capital account shows a credit balance of ₹15,000 pass journal entries if:

- The amount due is paid off immediately
- The amount due is not paid immediately
- ₹ 1,00,000 is paid and the balance in future

IV. Answer the following: 2x10=20

14. Kannan, Rahim and John are partners in a firm sharing profit and losses in the ratio of 5:3:2. The balance sheet as on 31st December, 2017 was as follows.

Liabilities	₹	₹	Assets	₹
Capital Accounts:			Buildings	90,000
Kannan	1,00,000	2,20,000	Machinery	60,000
Rahim	80,000		Debtors	30,000
John	40,000		Stock	20,000
Workmen compensation fund	30,000		Cash at Bank	50,000
Creditors	20,000		Profit and Loss A/C (Loss)	20,000
	2,70,000			2,70,000

John retires on 1st January 2018, subject to following conditions:

- To appreciate buildings by 10%
- Stock to be depreciated by 5%
- To provide ₹ 1,000 for Bad debts
- An unrecorded liability of ₹ 8,000 have been noticed.
- The retiring partner shall be paid immediately. Prepare revaluation Account, partner's capital account and the balance sheet of the firm after retirement

15. Saran, Arun and Karan are partners in a firm sharing profits and losses in the ratio of 4:3:3. Their balance sheet as on 31/12/16 was as follows:

Liabilities	₹	₹	Assets	₹	₹
Capital Accounts:			Buildings		60,000
Saran	60,000	1,50,000	Machinery		40,000
Arun	50,000		Investment Stock		20,000
Karan	40,000		Debtors	25,000	12,000
General reserve		15,000	Less: Provision for bad debts		50,000
Creditors		35,000		1,000	24,000
			Cash at bank		44,000
		2,00,000			2,00,000

Karan retires on 1/1/2017 subject to the following conditions:

- Goodwill of the firm is valued at ₹ 21,000
- Machinery to be appreciated by 10%
- Building to be valued at ₹ 80,000
- Provision for bad debts to be raised to ₹ 2,000
- Stock to be depreciated by ₹ 2,000
- Final amount due to Karan is not paid immediately.

Prepare the necessary ledges accounts and show the balance sheet of the firm after retirement.

09.10.19 Special Test-Biology Marks: 50
Std:XII (B,D,E) AN Bio-Botany Time:1½ hrs

I. Choose the correct answer: 3x1=3

1. Carbon stored in Industrialized forests is called _____.
- a. Black carbon b. Green carbon
c. Grey carbon d. Brown carbon
2. Solar energy used by green plants for photosynthesis is only _____.
- a. 2-10% b. 2-8% c. 2-9% d. 3-10%

3. _____ is a lentic ecosystem.
- a. Pond b. Stream c. Seas d. Rivers

II. Answer any 3 of the following: 3x2=6

4. Pyramid of energy is always upright. Give reasons.
5. Construct the food chain with the following data.
Hawk, Plants, Frog, Snake, Grasshopper

6. What is PAR?
7. State the ten percent law.
8. What is detritus food chain?
- III. Answer the following: [Any 2] 2x3=6
9. Draw a Pyramid from following details and explain in brief.
Quantities of organisms are given Hawks-50, plants-1000, rabbit and mouse-250 to 250, pythons and lizard 100+5 respectively.

10. What is plant succession?
11. Write a few sentences about Adayar Poonga.
- IV. Answer in detail: 2x5=10
12. Various stages of succession are given below. From that rearrange them accordingly. Find out the type of succession and

explain in detail. Reed swamp stage, phytoplankton stage, shrub stage, submerged plant stage, forest stage, submerged free floating stage, marshy meadow stage.

13. Shape of pyramid in a particular ecosystem always different in shape. Explain with example.
14. Generally human activities are against to the ecosystem. Where as you a student how will you help to protect ecosystem.

Bio-Zoology

I. Answer the following in one or two words: 4x1=4

1. What is the instrument used for measuring Humidity?
2. What is the instrument used to measure wind speed?
3. Name two fauna of Grassland.
4. Name two fauna of Taiga.

II. Answer any five of the following: 5x2=10

5. What are the important characteristic feature of Taiga Biome?
Any 2 points
6. What is meant by niche?
7. What is meant by Allen's rule?
8. What are stenotherms? Give example.
9. What is meant by Acclimatization?
10. What is meant by Pedosphere?
11. What is meant by Humidity?

III. Answer any two of the following: 2x3=6

12. Give three characteristic features of Tundra Biome.
13. Give three characteristic features of Taiga Biome.
14. Give three characteristic features of Grassland biome.

IV. Answer the following in detail: 1x5=5

15. Write a note on essential features of water.

9.10.2019 Special Test- Economics Time:1½ hrs

STD: XII -I, J (AN) Marks: 50

I. Choose The Correct Answer: 10x1=10

1. The direct tax has the following merits except
 - a. Convenient
 - b. equity
 - c. Certainty
2. Public finance is related to the financing of the _____ activities.
 - a. Central
 - b. State
 - c. Both a & b
3. The old and popular term of Fiscal Economics is called _____.
 - a. Public dept
 - b. Public finance
 - c. Federal Finance
4. The term 'Fiscal' is derived from _____ word.
 - a. Latin
 - b. Greek
 - c. French
5. Public Finance has been nearly termed as _____.
 - a. Fiscal policy
 - b. Fiscal economics
 - c. Federal Finance
6. 'Public Finance' is a study of the financial aspects of _____.
 - a. The private
 - b. The Local
 - c. The government
7. _____ occupies as important place in the study of public finance.
 - a. Public debt
 - b. Public Expenditure
 - c. Public revenue
8. Direct taxes are _____.
 - a. Progressive
 - b. Regressive
 - c. Proportion
9. GST is of _____ tax.
 - a. Direct tax
 - b. Indirect tax
 - c. Multiple tax
10. Public Finance is concerned with the income and expenditure of _____.
 - a. Private sector
 - b. Public authorities
 - c. Industrial sector

II. Answer any five of the following: 5x2=10

1. What do you mean by Public Finance?
2. What are the classifications of public revenue?
3. Define Public Finance.
4. What is Public revenue?
5. Give two examples for direct tax.
6. What is regressive tax?

III. Answer any five of the following: 5x3=15

1. Describe Canons of Taxation.
2. List out the several types of Indirect Taxes.
3. What are the functions of a modern state?
4. Mention any three similarities between Public and Private finance.
5. What are the demerits of Direct taxes?
6. What are the reasons for increase in government expenditure?

IV. Answer any three of the following: 3x5=15

1. Explain the scope of Public Finance.
2. Distinguish between Direct and Indirect tax.
3. Explain the Classification of Public expenditure.
4. Explain Non-Tax Revenue and its Sources.

09.10.19

Special Test

Marks:50

Std:XII [H,I,J] FN

Computer Application

Time:1½ Hrs

I. Choose the correct answer:

10x1=10

1. Expansion of UTP is
 - a) Uninterrupted Twisted Pair
 - b) Uninterrupted Twisted Protocol
 - c) Unshielded Twisted Pair
 - d) Universal Twisted Protocol
2. Which connector is used in the Ethernet cables?
 - a) RJ11 b) RJ21 c) RJ61 d) RJ45
3. Pick the odd one out from the following cables
 - a) roll over b) cross over
 - c) null modem d) straight through
4. How many pins are used in RJ45 cables?
 - a) 8 b) 6 c) 50 d) 25
5. Match the following:
 1. Ethernet - Port
 2. RJ45 connector - Ethernet
 3. RJ45 jack - plug
 4. RJ45 cable - 802.3
 - a) 1,2,4,3 b) 4,1,3,2 c) 4,3,1,2 d) 4,2,1,3
6. Co-axial cables are made up of _____
 - a) Steel b) Iron c) Copper d) Aluminum
7. Assertion (A): 8 wires of twisted cables are twisted
Reason(R): To ignore electromagnetic interference
 - a) A is true R is the reason b) A,R both false
 - c) A is false R is true d) A is true, R is not the reason
8. USB stands for _____.
9. The parallel port will send _____.
 - a) 1 b) 2 c) 4 d) 8
10. Pick the odd one out:
 - a) patch cable b) rotating tool c) crimping tool d) RJ45

II. Answer in short: [Any 5]

5x2=10

1. What is an Ethernet port?
2. What are the types of twisted pair cables?
3. What are the uses of USB cables?
4. List out the components in cabling Ethernet.
5. What are the types of fibre optic cables?

6. Write a note on twisted pair cable.

7. Write a note on serial cables.

III. Answer in brief: [Any 5]

5x3=15

1. Write a note on crossover cables.
2. Write about fibre optic cables.
3. What is meant by null modem cable.
4. Write a note on RJ45 connector.
5. What are the types of Jacks?
6. Write a note on Patch Cable.

IV. Answer in detail: [Any 3]

3x5=15

1. What is meant by Registered Jack? Explain briefly the types of Jacks.
2. Explain the components used in Ethernet cabling.
3. Explain the types of network cables.
4. Explain about wiring techniques used in Ethernet Cabling.

9.10.2019

Special Test-Mathematics

Time: 1½ hrs

STD: XII (A,C) AN

Marks: 50

I. Choose the correct answer:

10x1=10

1. Area of the greatest rectangle inscribed in the ellipse $\frac{x^2}{a^2} + \frac{y^2}{b^2} = 1$ is _____.

- a. 2ab b. a b c. \sqrt{ab} d. $\frac{a}{b}$

2. The locus of a point whose distance from (-2,0) is $\frac{2}{3}$ times its distance from the line $x = -\frac{9}{2}$ is _____.

- a. a parabola b. a hyperbola
c. an ellipse d. a circle

3. If $x+y=k$ is a normal to the parabola $y^2=12x$ then the value of k is _____.

- a. 3 b. -1 c. 1 d. 9

4. The circle passing through (1,-2) & touching the axis of x at (3,0) passing through the point _____.

- a. (-5,2) b. (2,-5) c. (5, -2) d. (-2,5)

5. If the normals of the parabola $y^2=4x$ drawn at the end points of its L.R are Tangents to the circle $(x-3)^2 + (y+2)^2 = r^2$ then the value of r^2 is _____.

- a. 2 b. 3 c. 1 d. 4

6. The values of m for which the line $y-mx+2\sqrt{5}$ touches the hyperbola $16x^2 - 9y^2 = 144$ are the roots of $x^2 - (a+b)x-4=0$ then the value of (a+b) is _____.

- a. 2 b. 4 c. 0 d. -2

7. The radius of the circle $3x^2 + by^2 + 4bx - 6by + b^2 = 0$ is _____.

- a. 1 b. 3 c. $\sqrt{10}$ d. $\sqrt{11}$

8. If p(x, y) be any point on $16x^2 + 25y^2 = 400$ with foci F1(3,0), F2 (-3,0) then PF_1+PF_2 is _____.

- a. 8 b. 6 c. 10 d. 12

9. The length of the diameter of the circle which touches the x-axis at the point (1,0) & passes through the point (2,3)

- a. $\frac{6}{5}$ b. $\frac{5}{3}$ c. $\frac{10}{3}$ d. $\frac{3}{5}$

10. The equation of the normal to the circle $x^2 + y^2 - 2x - 2y + 1 = 0$ which is parallel to the line $2x+4y=3$ is _____.

- a. $x+2y=3$ b. $x+2y+3=0$
c. $2x+4y+3=0$ d. $x-2y+3=0$

II. Answer any 5:

$$5x+3=15$$

11. Prove by vector method that an angle in a semi-circle is a right angle.

12. A particle acted on by constant forces $8\hat{i} + 2\hat{j} - 2\hat{k}$ & $6\hat{i} + 2\hat{j} - 2\hat{k}$ is displaced from the point (1, 2, 3) to the point (5, 4, 6) find the work done.

13. The parabolic communication antenna has a focus at 2m distance from the vertex of the antenna. Find the width of the antenna 3m from the vertex.

14. Prove by vector method that the median to the base of an isosceles triangle is perpendicular to the base.

15. A particle is acted upon by the forces $3\hat{i} - 2\hat{j} + 2\hat{k}$ & $2\hat{i} + \hat{j} - \hat{k}$ is displaced from the point $(1, 3, -1)$ to the point $(4, -1, \lambda)$. If the work done by the forces is 16 units, find the values of λ .

16. If the equation of the ellipse is $\frac{(x-11)^2}{484} + \frac{y^2}{64} = 1$ where to the nearest centimetre, should the patient's kidney stone be placed so that the reflected sound hits the kidney stone?

III. Answer any 5 of the following: 5x5=25

17. A rod of length 1.2m moves with its ends always touching the co-ordinate axes. The locus of a point P on the rod, which is 0.3m from the end in contact with x-axis is an ellipse. Find the eccentricity.

18. On lighting a rocket cracker it gets projected in a parabolic path & reaches a maximum height of 4m when it is 6m away from the point of projection. Finally it reaches the ground 12m away from the starting point. Find the angle of projection.

19. P.T $\sin(\alpha - \beta) = \sin\alpha \cos\beta - \cos\alpha \sin\beta$

20. P.T $\cos(\alpha + \beta) = \cos\alpha \cos\beta - \sin\alpha \sin\beta$

21. Two coast guard stations are located 600km apart at points A(0,0) & B(0,600). A distress signal from a ship at P is received at slightly different times by two stations. It is determined that the ship is 200km farther from station A than it is from station B. Determine the equation of hyperbola that passes through the location of the ship.