STEPHENS INTERNATIONAL PUBLIC SCHOOL
Holidays Homework for Class – 12th - B (Commerce) – 2018-19

SUBJECT : ENGLISH

WRITING

Q:1.   Write articles on the following topics:-
    (a)   A language as a means of suppression (refer the last lesson)
    (b)   'God couldn't be everywhere, so he made mothers'.

Q:2.   Water is precious and each one of us must stop wastage. Prepare a poster in not more than 50 words urging people to employ various methods of rainwater harvesting in their colonies.

Q:3.   The recent rain caused great havoc in the city. Many buildings collapsed and several trees got uprooted blocking traffic at several places. Write a report to be published in a national daily.

LITERATURE

Q:4.   Why it is important to keep one's language alive? What are the reasons behind extinction of many languages?

Q:5.   Explain how politician exploit the poverty of the rag pickers of Seemapuri.

Q:6.   Comment on the beginning of the story – The Tiger King.

Revise chapters

Flamingo –	1.	The Last Lesson
	2.	Lost Spring
Vistas –	1.	The Tiger King
	2.	The Enemy

SUBJECT : ACCOUNTANCY

Q:1.   What is partnership deed? What are its contents?
Q:2.   What is partnership? What are its features?
Q:3.   Differentiate between capital account and current account.
Q:4.   Differentiate between fixed capital and fluctuating capital account.
Q:5.   Differentiate between super profit and average profit.
Q:6.   Differentiate between profit and loss account and P/L App. account.
Q:7.   Differentiate between charge against profit and appropriation of profit.
Q:8.   What are the steps followed for calculating goodwill by super profit method?
Q:9.   What are the steps to be followed for calculating goodwill by capitalization methods?
Q:10.   Differentiate between average profit and super profit.
Q:11.   What is goodwill? What are the factors affecting it?
Q:12.   What are different types of goodwill?
Q:13.   What do you understand by Gurantee of profit? How it is treated?
Q:14.   What are past adjustments?

SUBJECT : BUSINESS STUDIES

Q:1.   What is planning? What it is important?
Q:2.   What are the steps of planning?
Q:3.   Differentiate between policy and procedure.
Q:4.   Differentiate between method and procedure?
Q:5.   Differentiate between strategy and method.
Q:6.   Differentiate between policy and method.
Q:7.   What are 14 principles given by Henry Fayol?
Q:8.   What is the feature of planning?
Q:9.   What is the nature of business management?

Q:10. Explain various dimensions of business environment?

Q:11. Understanding of business environment helps in 'coping with rapid changes' and assists in 'plans and policy formulation'. Explain.

Q:12. Differentiate between time study and motion study.

Q:13. Explain liberalization and privatization as new trends in Indian Business Environment.

Q:14. Differentiate between objectives and policy.

Q:15. What are the limitations of planning?

SUBJECT : ECONOMICS

Q:1. Explain the process of double counting in the estimation of National Income with the help of an illustration.

Q:2. "All producer good are not capital goods." Comment. Discuss the significance of depreciation reserve fund.

Q:3. Outline the income method and expenditure method of measuring National Income of an economy. Discuss the precautions of each method separately.

Q:4. Explain circular flow of money in a two sector economy.

Q:5. Calculate Net Domestic Product at factor cost by the expenditure method and productions method.

S.No.	Contents	₹ (in crore)
1.	Value of output in Economic territory	4100
2.	Net imports	–50
3.	Intermediate purchase by primary sector	600
4.	Pvt. final consumption expenditure	1450
5.	Intermediate purchases by secondary sector	700
6.	Govt. final consumption expenditure	400
7.	Net domestic fixed capital formation	200
8.	Intermediate purchases by tertiary sector	700
9.	Net change in stock	–50
10.	Net indirect taxes	100
11.	Consumption of fixed capital	50

Q:6. Derive saving function from consumption function.

Q:7. Distinguish between inflationary gap and deflationary gap. Draw graphs also.

Q:8. (a) If MPC = 0.75, how much additional investment is required to increase income by 600? Also, find the multiplier.

  (b) Find the value of multiplier when MPC = MPS

Q:9. In an economy, the consumptions function is $C = 500 + 0.75 y$ where C is consumption of expenditure and y is income. Calculate equilibrium level of income and consumption expenditure when investment expenditure is ₹5000.

SUBJECT : PHYSICAL EDUCATION

Q:1. What do you mean by intramurals? Explain the organization of intramurals.

Q:2. Being sport's captain of the school, prepare five important committee with their responsibilities to conduct one day Run – for Health Race.

Q:3. Explain the procedure benefits, precautions and constrain dictions of

  (a) Tadasana (ii) Chakrasana

Q:4. What is hypertension? What are its types of risk factors?

Q:5. What do you mean by Bulimia Nervosa? Mention causes.

Q:6. Comment on the outlook of Indian society towards the participation of women in sports.

Q:7. What do you understand by eating disorder?

SUBJECT : MATHEMATICS

Chapter – Inverse Trigonometric Functions

Q:1. Find the principle values of

(i) $\sin^{-1}\left(\dfrac{1}{\sqrt{2}}\right)$ (ii) $\cot^{-1}\left(\dfrac{-1}{\sqrt{3}}\right)$ (iii) $\cos^{-1}\left(\cos\dfrac{2\pi}{3}\right)+\sin^{-1}\left(\sin\dfrac{2\pi}{3}\right)$

(iv) $\tan^{-1}\left(\tan\dfrac{2\pi}{3}\right)$ (v) $\cos^{-1}\left(\cos\dfrac{2\pi}{6}\right)$

Q:2. Prove that: $4(\cot^{-1}3 + \cos ec^{-1}\sqrt{5}) = \pi$

Q:3. Evaluate: (i) $\cos\left[\cos^{-1}\left(\dfrac{-\sqrt{3}}{2}\right)+\dfrac{\pi}{6}\right]$ (ii) $\sin\left[\dfrac{\pi}{2}-\sin^{-1}\left(\dfrac{-\sqrt{3}}{2}\right)\right]$

(iii) $\cos\left[\cos^{-1}\left(\dfrac{-\sqrt{3}}{2}\right)+\dfrac{\pi}{6}\right]$ (iv) $\sin\left[\dfrac{\pi}{3}-\sin^{-1}\left(\dfrac{-1}{2}\right)\right]$

Q:4. Find the value of $2\sin^{-1}\dfrac{1}{2}+\cos^{-1}\left(\dfrac{-1}{2}\right)$

Q:5. Write $\sin^{-1}\left(2x\sqrt{1-x^2}\right)$, $\dfrac{-1}{\sqrt{2}}<x<\dfrac{1}{\sqrt{2}}$ in the simplest form.

Q:6. Simplify the following:-

(i) $\sin^{-1}\left(\dfrac{\sin x+\cos x}{\sqrt{2}}\right)$, $\dfrac{-\pi}{4}<x<\dfrac{\pi}{4}$

(ii) $\cos^{-1}\left(\dfrac{\sin x+\cos x}{\sqrt{2}}\right)$, $\dfrac{\pi}{4}<x<\dfrac{5\pi}{4}$

Q:7. Solve: $\tan^{-1}2x+\tan^{-1}3x=\dfrac{\pi}{4}$

Q:8. Solve for x : $\tan^{-1}(x+1)+\tan^{-1}(x-1)=\tan^{-1}\left(\dfrac{8}{31}\right)$

Q:9. Express $\tan^{-1}\left(\dfrac{\cos x}{1-\sin x}\right)$, $\dfrac{-\pi}{2}<x<\dfrac{\pi}{2}$ in the simplest form.

Q:10. Prove that $\tan^{-1}\left(\dfrac{1}{4}\right)+\tan^{-1}\left(\dfrac{2}{9}\right)=\dfrac{1}{2}\cos^{-1}\left(\dfrac{3}{5}\right)=\sin^{-1}\left(\dfrac{1}{\sqrt{5}}\right)$

Q:11. If $(\tan^{-1}x)^2+(\cos^{-1}x)^2=\dfrac{5\pi^2}{8}$, then find x.

Q:12. Prove that $2\tan^{-1}\left(\dfrac{1}{5}\right)+\sec^{-1}\left(\dfrac{5\sqrt{2}}{7}\right)+2\tan^{-1}\dfrac{1}{8}=\dfrac{\pi}{4}$

Q:13. If $\tan^{-1}\left(\dfrac{x-2}{x-4}\right)+\tan^{-1}\left(\dfrac{x+2}{x+4}\right)=\dfrac{\pi}{4}$, find the value of x.

Q:14. If $\sin[(\cot^{-1}(x+1)]=\cos(\tan^{-1}x)$, then find x.

Q:15. Show that $\sin^{-1}\dfrac{12}{13}+\cos^{-1}\dfrac{4}{5}+\tan^{-1}\dfrac{63}{16}=\pi$

Q:16. If $3\tan^{-1}x + \cot^{-1}x = \pi$, then x equals to

(a)   0   (b)   1   (c)   −1   (d) $\dfrac{1}{2}$

Q:17. For what value of x, $\sin^{-1}x - \cos^{-1}x = \dfrac{\pi}{6}$

Q:18. If $\sin\left(\sin^{-1}\dfrac{1}{5} + \cos^{-1}x\right) = 1$, then find the value of x.

Q:19. If $\tan^{-1}\left(\dfrac{x-1}{x-2}\right) + \tan^{-1}\left(\dfrac{x+1}{x+2}\right) = \dfrac{\pi}{4}$, then find the value of x.

Q:20. Write in simplest form:- $\tan^{-1}\left(\sqrt{\dfrac{1-\cos x}{1+\cos x}}\right)$, $x < \pi$

Q:21. Prove that $\tan^{-1}\left(\dfrac{x}{\sqrt{a^2-x^2}}\right) = \sin^{-1}\left(\dfrac{x}{a}\right)$

Chapter – Matrix and Determinant

Q:1. Using properties of determinant, show that $\Delta = \begin{vmatrix} a+b+2c & a & b \\ c & b+c+2a & b \\ c & a & c+a+2b \end{vmatrix} = 2(a+b+c)^3$

Q:2. Using properties of determinant, show that $\Delta = \begin{vmatrix} 1+a & 1 & 1 \\ 1 & 1+b & 1 \\ 1 & 1 & 1+c \end{vmatrix} = abc\left(1+\dfrac{1}{a}+\dfrac{1}{b}+\dfrac{1}{c}\right)$

Q:3. Using properties of determinant, show that $\Delta = \begin{vmatrix} a^2+1 & ab & ac \\ ab & b^2+1 & bc \\ ca & cb & c^2+1 \end{vmatrix} = \begin{vmatrix} a^2 & b^2 & c^2 \\ a^2 & b^2+ & c^2 \\ a^2 & b^2 & c^2+1 \end{vmatrix}$

Q:4. Using properties of determinant, show that $\Delta = \begin{vmatrix} b+c & c+a & a+b \\ q+r & r+p & p+q \\ y+z & z+x & x+y \end{vmatrix} = 2\begin{vmatrix} a & b & c \\ p & q & r \\ x & y & z \end{vmatrix}$

Q:5. Using properties of determinant, show that $\Delta = \begin{vmatrix} 1+a^2-b^2 & 2ab & -2b \\ 2ab & 1-a^2+b^2 & 2a \\ 2b & -2a & 1-a^2-b^2 \end{vmatrix} = (1+a^2+b^2)^3$

Q:6. Using properties of determinant, show that $\Delta = \begin{vmatrix} x+a & x & x \\ y & y+b & y \\ z & z & z+c \end{vmatrix} = abc\left(1+\dfrac{x}{a}+\dfrac{y}{b}+\dfrac{z}{c}\right)$

Q:7.   Using properties of determinant, show that $\Delta = \begin{vmatrix} \dfrac{a^2+b^2}{c} & c & c \\ a & \dfrac{b^2+c^2}{a} & a \\ b & \dfrac{c^2+a^2}{b} & b \end{vmatrix} = 4abc$

Q:8.   Using properties of determinant, show that $\Delta = \begin{vmatrix} a+bx & c+dx & p+qx \\ ax+b & cx+d & px+q \\ u & v & w \end{vmatrix} = (1-x^2)\begin{vmatrix} a & c & p \\ b & d & q \\ u & v & w \end{vmatrix}$

Q:9.   Using properties of determinant, show that $\Delta = \begin{vmatrix} -bc & b^2+bc & c^2+bc \\ a^2+ac & -ac & c^2+ac \\ a^2+ab & b^2+ab & -ab \end{vmatrix} = (ab+bc+ca)^3$

Q:10.   Using properties of determinant, show that $\Delta = \begin{vmatrix} a+b & b+c & c+a \\ b+c & c+a & a+b \\ c+a & a+b & b+c \end{vmatrix} = 2\begin{vmatrix} a & b & c \\ b & c & a \\ c & a & b \end{vmatrix}$

Q:11.   Prove that $\begin{vmatrix} \alpha & \beta & \gamma \\ \alpha^2 & \beta^2 & \gamma^2 \\ \beta+\gamma & \gamma+\alpha & \alpha+\beta \end{vmatrix} = (\alpha-\beta)(\beta-\gamma)(\gamma-\alpha)(\alpha+\beta+\gamma)$

Q:12.   Prove that $\begin{vmatrix} 1 & x & x^2 \\ x^2 & 1 & x \\ x & x^2 & 1 \end{vmatrix} = (1-x^3)^2$

Q:13.   Find the value of $[f(2x)-f(x)]$ if $f(x) = \begin{vmatrix} a & -1 & 0 \\ ax & a & -1 \\ ax^2 & ax & a \end{vmatrix}$

Q:14.   Using properties of determinant solve for x : $\begin{vmatrix} 3x-8 & 3 & 3 \\ 3 & 3x-8 & 3 \\ 3 & 3 & 3x-8 \end{vmatrix} = 0$

Q:15.   If $A = \begin{bmatrix} 4 & 1 \\ 5 & 8 \end{bmatrix}$, show that $A - A^T$ is a skew-symmetric matrix where A^T denotes the transverse of A.

Q:16.   For what value of x, is the matrix $A = \begin{bmatrix} 0 & 1 & -2 \\ -1 & 0 & 3 \\ x & -3 & 0 \end{bmatrix}$ a skew-symmetric matrix?

Q:17.   Find the inverse of the matrix A $= \begin{bmatrix} 0 & 1 & 2 \\ 1 & 2 & 3 \\ 3 & 1 & 1 \end{bmatrix}$ by using elementary row transformation.

Q:18.   If A $= \begin{bmatrix} 2 & 3 \\ 4 & 5 \end{bmatrix}$ show that A + A′ is symmetric

Q:19.   Find the values of a, b and c if the matrix A $= \begin{bmatrix} 0 & 2b & c \\ a & b & -c \\ a & -b & c \end{bmatrix}$ obeys A′A = I

Q:20.   If A $= \begin{bmatrix} 0 & 1 & 1 \\ 1 & 0 & 1 \\ 1 & 1 & 0 \end{bmatrix}$ then show that A^3 − 3A − 2I = 0 and hence find A^{-1}.

Q:21.   If A $= \begin{bmatrix} 3 & -1 \\ -4 & 0 \\ 2 & 1 \end{bmatrix}$, B $= \begin{bmatrix} 2 & -1 \\ -1 & -2 \\ 1 & 1 \end{bmatrix}$ find (A′B′)

Q:22.   Using matrix method solve the system of equations:-
$$2x - 3y + 5z = 11,$$
$$3x + 2y - 4z = -5,$$
$$x + y - 2z = -3$$

Q:23.   If A $= \begin{bmatrix} 1 & 1 & 1 \\ 1 & 0 & 2 \\ 3 & 1 & 1 \end{bmatrix}$ find A^{-1} and use A^{-1} to solve the system of equations

$$x + y + z = 6$$
$$x + 2z = 7$$
$$3x + y + z = 12$$

Q:24.   If P $= \begin{bmatrix} -4 & 4 & 4 \\ -7 & 1 & 3 \\ 5 & -3 & -1 \end{bmatrix}$ and A $= \begin{bmatrix} 1 & -1 & 1 \\ 1 & -2 & -2 \\ 2 & 1 & 3 \end{bmatrix}$, find PA and use to solve the system of equation

$x - y + z = 4$, $x - 2y - 2z = 9$, $2x + y + 3z = 1$

Q:25.   If A is an invertible matrix of order (2 × 2) then det(A^{-1}) is equal to

(a)   det A   (b) $\dfrac{1}{\det A}$ (c)   1   (d)   0

Q:26.   Using elementary row transformation find A^{-1} if A $= \begin{bmatrix} 2 & -6 \\ 1 & -2 \end{bmatrix}$

Q:27.   Find a matrix X so that X $\times \begin{bmatrix} 1 & 2 & 3 \\ 4 & 5 & 6 \end{bmatrix} = \begin{bmatrix} -7 & -8 & -9 \\ 2 & 4 & 6 \end{bmatrix}$

Q:28.   If matrix A is symmetric as well as skew-symmetric, then A is
(a)   Diagonal matrix   (b)   Null matrix   (c)   Scalar matrix

Q:29.   For what of x if $\begin{bmatrix} 2(x+1) & 2x \\ x & x-2 \end{bmatrix}$ is a Singular matrix.

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Holidays Homework for Class – 12th - B (Commerce) – 2018-19

SUBJECT : COMPUTER SCIENCE

* Store Summer holidays homework in a CD {Compact Disc}

* Pictures can be scan/taken from your computer book OR from Internet sources.

* Do Holiday Homework individually, not in groups.

* Submit the CD before 09th July 2018 positively.

Q:1.   Type **ten sentences** on C++ Language and save in a notepad file with the name "MY C++ Knowledge".

Q:2.   Design a PowerPoint Presentation that shows '**OOPs Concept in brief**' with the help of animation. {*See in your latest syllabi*}

Q:3.   Create a table in MS-word file and type t**hree access specifiers their description**. {*See in your latest syllabi*}

Q:4.   **WAP in *.cpp file** based on all 5 basic pillars of OOPs Language. {*See in your latest syllabi*}

Q:5.   Draw a Computer in MS Paint file that depicts *how a user switches it on* and save in a file with the name "MY Computer".

Q:6.   Define a class to represent **a book** in a library. Include the following members: {*Save in MS-Word File*}

Data Members

Book Number, Book Name, Author Name, Publisher Name, Price of Book, No. of Copies issued to person.

Function Members

(i)   To assign initial values.

(ii)   To issue a book after checking for its availability.

(iii)   To return a book.

(iv)   To display book information.

Q:7.   Define a class to represent **bowlers** in a cricket team. Include the following members: {*Save in MS-Word File*}

Data Members

First Name, Last Name, Overs bowled, Number of Maiden overs, Runs given, Wickets taken.

Function Members

(i)   To assign the initial values.

(ii)   To update the information.

(iii)   To displays' the bowler information.