SUNRISEVILLE SCHOOL, NOIDA
SUMMERS HOLIDAY HOMEWORK (2018 – 2019)
Class XII COMMERCE

ENGLISH

1. Select five comprehension for note-making from any sample paper or bbc compacta write(title, heading, sub-headings key to abbreviation and summary in 80 words)
2. Write five notice on five different topics in 50 words from bbc or any other sample paper in your writing note book.
3. Prepare five report in 175-200 words on the current topics (Events, Accidents, and incidents)
4. Write five articles in different topics (related to current affairs) in 175-200 words.
5. Prepare five speech on the five different topics in 175-200 words with format of the speech.

ACCOUNTANCY

Take an imaginary company & its transactions for a year. Prepare Journal Entries, Ledger, Trial Balance, Trading & Profit & Loss & Balance Sheet. Also use graphs & pie diagrams to make your presentation more effective. Do this in a Project file.

Revise Partnership upto admission. Test will be held just after school reopens.

Do all the practical problems along with illustration of chapter 1 to 4 in your school notebook.

BUSINESS STUDIES

Q.1 National Virtech limited has grown in size. It was a market leader but with changes in business environment and with the entry of MNC's its market share is declining. To cope up with the situation CEO starts delegating some of his authority to the general manager, who also himself felt overburdened and with the approval of CEO disperses some of authority to various levels throughout the organisation. Identify the concept of management discussed above. (1)

Q.2 Alliance Ltd. is engaged in manufacturing plastic buckets. The objective of the company is to manufacture 100 buckets a day. To achieve this, the efforts of all departments are coordinated and interlinked and authority-responsibility relationship is established among various job positions. There is clarity on who is to report to whom. Name the function of management discussed above. (1)

Q.3 What is meant by 'functional structure' of an organisation? State its any two advantages (3)

Q.4 A company is manufacturing 'LED bulbs' which were in great demand. It was found that the target of producing 300 bulbs a day was not met by the employees. On analysis , it was found that the workers were not at fault. Due to electricity failure and shortage of workers, the company was not able to achieve the set targets and alternative arrangements were needed.

To meet increased demand, the company assessed that approximately 88 additional workers were required out of which 8 would work as heads of different departments and 10 would as subordinates under each head. The required qualifications and job specifications were also enlisted. It was also decided that necessary relaxation should be given to encourage women, persons from backward and rural areas and persons with special abilities to assume responsible positions in the organisation. All efforts were made to match the ability of the applicants with the nature of work.

(a) Identify the functions of management discussed above.

(b) State the two steps in process of each function discussed in the above paragraph.

(c) List any two values which the company wants to communicate to the society. (5)

Q.5 Neeraj Gupta started a company 'YoYo Ltd.' with ten employees , to assemble economical computers for Indian rural market. The company did very well in initial years. As the product was good and was marketed well, the demand went up. To increase production the company decided to recruit additional employees. Neeraj Gupta, who was earlier taking all decisions for the company, had to selectively disperse the authority.

He believed that people are competent, capable and resourceful and can assume responsibility for affective implementation of their decisions. This paid off and the company was not only able to increase its production but also expanded its product range with different features

(a) Identify the concept used by Neeraj Gupta through which he was able to steer his company to greater heights .

(b) Also explain any 3 points of importance of t is concept. (4)

Q.6 The workers of 'Gargya Ltd.' are unable to work on new computerized machines imported by the company to fulfil the increased demand. Therefore, the workers are seeking extra guidance from the supervisor and the supervisor is overburdened with the frequent calls of workers.

Suggest how the supervisor, by increasing the skills and knowledge of workers, can make them handle their work independently .

Also state any three benefits that the workers will derive by the decision of the supervisor. (4)

Q.7 What is performance appraisal? (1)

Q.8 Name the methods of training:

(i) The trainee learns under the guidance of master worker.

(ii) Trainees learn on the equipments they will be using, but training is conducted away from the actual work floor.

(iii) Trainees work in some factory or office to acquire practical knowledge and skills along with regular studies. (3)

Q-9 The Employee of Manik Ltd. a software company have formed a dramatic group for their recreation. Name the type of organisation so formed and state its two features (3)

Q.10. Naveen and Rishi after finishing their graduation under vocational stream decided to start their own travel agency which will book Rail Tickets and Air Tickets on commission basis. They also thought of providing tickets within ten minutes through the use of internet. They discussed the idea with their Professor Mr. Gupta who liked the idea and suggested them to first analyse the business environment which consists of investors, competitors and other forces like social, political etc. that may affect their business directly or indirectly. He further told them about the technological improvements and shifts in consumer preferences that were taking place and hence they should be aware of the environmental trends and changes which may hinder their business performance. He emphasised on making plans keeping in mind the threat posed by the competitors, so that they can deal with the situation effectively. This alignment of business operations with the business environment will result in better performance.

(i)   Identify and state the component of business environment highlighted in the above Para.

(ii)   State any three features of business environment as discussed by Professor Gupta with Naveen and Rishi.

(iii)   Also state two points of importance of business environment as stated by Professor Gupta in the above situation.

Q.11. State any four functions of operational management.

Q.12. Explain globalisation and liberalisation.

Q.13. Write three impacts of privatisation on Industry and business in India.

Q.14. Management is regarded as an art by some, as science or as an inexact science by others. The truth seems to be somewhere in between. In the light of this statement explain the true nature of management.

ECONOMICS

Prepare a Project on any of the following topics as your holiday homework -:

(a) Goods & Service Tax

(b) Demonatisation

(c) Foreign Direct Investment

(d) Make in India

(e) Any Topic from your course book

The project should be neat & clean & presentable. The project should be of atleast 30 pages.

Also revise Demand, Elasticity of Demand, Supply, Elasticity of Supply, Price Determination of Test.

MATHEMATICS

Q1. The volume of a cube is increasing at a constant rate. Prove that the increase in surface area varies inversely as the length of the edge of the cube.

Q2. Find the equation of tangent to the curve x = 3sint, y = cos2t, at $t = \frac{\pi}{4}$.

Q3. Find the intervals in which $f(x) = 2x^3 - 9x^2 + 12x + 15$ is:
   (i)   Increasing
   (ii)   Decreasing

Q4. Prove that the curves $x = y^2$ and xy = k intersect at right angle if $8k^2 = 1$.

Q5. Find the points on the curve $x^2 + y^2 -2x - 3 = 0$ at which tangents are parallel to x-axis.

Q6. Water is running into a conical vessel, 15cm deep and 5 cm in radius, at the rate of 0.1 cm 3 /sec . When the water is 6 cm deep, find at what rate is (i) the water level rising? (ii) the water-surface area increasing? (iii) the wetted surface of the vessel increasing? (Ans: 1 40 cm /sec , 1 2 10 2 30 30 cm /sec, cm /sec)

Q7. Find an angle θ , which increases twice as fast as its sine. (Ans: 3 π)

Q8. A balloon in the form of a right circular cone surrmounted by a hemisphere, having a diameter equal to the height of the cone, is being infalted. How fast is its volume changing with respect to its total height h , when h = 9cm. (Ans: 3 12π cm /sec)

Q9. The volume of metal in a hollow sphere is constant. If the inner radius is increasing at the rate of 1 cm/sec, find the rate of increase of the outer radius when the radii are 4cm and 8cm respectively. (Ans: 14 cm /sec)

Q10.A kite 120 m high and 130 m of string is out. If the kite is moving away horizontally at the rate of 52 m/sec, find the rate at which the string is being paid out. (Ans: 20m/sec)

Q11. $\tan(\frac{\pi}{4}+\frac{1}{2}\cos^{-1}\frac{a}{b}) + \tan(\frac{\pi}{4}-\frac{1}{2}\cos^{-1}\frac{a}{b}) = \frac{2b}{a}$

Q12. Solve for x: $\tan^{-1} x + 1 + \tan^{-1} x - 1 = \tan^{-1}\frac{8}{31}$

Q13. Prove that: $2\tan^{-1}\frac{1}{5} + \tan^{-1}\frac{1}{8} = \tan^{-1}\frac{4}{7}$.

Q14. Prove that: $\tan^{-1}\frac{1}{3} + \tan^{-1}\frac{1}{5} + \tan^{-1}\frac{1}{7} + \tan^{-1}\frac{1}{8} = \frac{\pi}{4}$

Q15. Solve for x: $\tan^{-1} 2x + \tan^{-1} 3x = \frac{\pi}{4}$

Q16. Prove that: $\sin^{-1}\frac{12}{13} + \cos^{-1}\frac{4}{5} + \tan^{-1}\frac{63}{16} = \pi$

Q17. Prove that: $\sin^{-1}\frac{4}{5} + \sin^{-1}\frac{5}{13} + \sin^{-1}\frac{16}{25} = \frac{\pi}{2}$

Q18. Let A = $\begin{vmatrix} 3 & 2 & 5 \\ 4 & 1 & 3 \\ 0 & 6 & 7 \end{vmatrix}$ express A as a sum of two matrices such that one is symmetric & other is skew symmetric.

Q19. Let A = $\begin{bmatrix} 0 & tan\frac{\alpha}{2} \\ -tan\frac{\alpha}{2} & 0 \end{bmatrix}$ & I is the identity matrix of order 2.

Show that $(I + A) = (I - A)\begin{bmatrix} cos\alpha & -sin\alpha \\ sin\alpha & cos\alpha \end{bmatrix}$

Q20. Using matrices solve

$x - y + 2z = 7$

$3x + 4y - 5z = 5$

$2x - y + 3z = 12$

Q21. If A = $\begin{bmatrix} 2 & 0 & 1 \\ 2 & 1 & 3 \\ 1 & -1 & 0 \end{bmatrix}$ find $A^2 - 5A + 4I$ and hence find a matrix X such that $A^2 - 5A + 4I + X = 0$.

Q22. Using properties of determinants, Prove:

$\begin{vmatrix} 1 + a^2 - b^2 & 2ab & -2b \\ 2ab & 1 - a^2 + b^2 & 2a \\ 2b & -2a & 1 - a^2 - b^2 \end{vmatrix} = (1 + a^2 + b^2)^3$

Q23. Using properties of determinants, Prove:

$\begin{vmatrix} a^2 + 1 & ab & ac \\ ab & b^2 + 1 & bc \\ ca & cb & c^2 + 1 \end{vmatrix} = 1 + a^2 + b^2 + c^2$

Q24. Solve for x:

$\begin{vmatrix} 3x - 8 & 3 & 3 \\ 3 & 3x - 8 & 3 \\ 3 & 3 & 3x - 8 \end{vmatrix} = 0.$

Q25. If $y = \tan^{-1}\frac{\sqrt{1+x} - \sqrt{1-x}}{\sqrt{1+x} + \sqrt{1-x}}$, find $\frac{dy}{dx}$.

Q26. If $x\sqrt{1 + y} + y\sqrt{1 + x} = 0$, find $\frac{dy}{dx}$.

Q27. If $y = \tan^{-1}\frac{\sqrt{1+sinx} + \sqrt{1-sinx}}{\sqrt{1+sinx} - \sqrt{1-sinx}}$, find $\frac{dy}{dx}$.

Q28. If $f(x) = \sqrt{\frac{secx-1}{secx+1}}$, find f'(x). Also find f'$(\frac{\pi}{2})$.

Q29. For what value of k the following function is continuous:

$f(x) = \begin{vmatrix} 2x + 1, & x < 2 \\ k, & x = 2 \\ 3x - 1, & x > 2 \end{vmatrix}$

Q30. If $(cosx)^y = (cosy)^x$, find $\frac{dy}{dx}$.

Q31. If $y = \text{cosec}^{-1} x$, then show that $x(x^2 - 1)\frac{d^2y}{dx^2} + (2x^2 - 1)\frac{dy}{dx} = 0$

Q32. Find $\frac{dy}{dx}$ if $(x^2+y^2)^2 = xy$.

Q33. If y=3 cos (logx)+ 4sin(logx), then find $\frac{dy}{dx}$. Type equation here.

Q34. If siny =xsin(a+y), prove that $\frac{dy}{dx} = \frac{\sin^2(a+y)}{\sin a}$

Q35. If $(\cos x)^y = (\sin y)^x$, find $\frac{dy}{dx}$.

Q36. If $\log (x^2+y^2) = 2\tan^{-1}\frac{y}{x}$, then show that $\frac{dy}{dx} = \frac{x+y}{x-y}$

Q37. Find $\frac{dy}{dx}$ if $y^x + x^y = a^b$, where a,b are constants.

Q38. Find $\frac{dy}{dx}$ if y= $\cos^{-1}(\frac{2x+1}{1+4x})$

Q39. If x=a(θ − sinθ), y =a(1 +cosθ), find $\frac{dy}{dx}$.

Q40. Differentiate the given function with respect to x: $(\log x)^x + x^{\log x}$

Q41. If $x^m y^n = (x+y)^{m+n}$, prove that $\frac{dy}{dx} = \frac{y}{x}$

Q.42 Diff. the given with respect to x:

$X^{\sin x} + (\sin x)^{\cos x}$

Q.44 Show that $\int_0^{\frac{\pi}{2}} (\sqrt{\tan x} + \sqrt{\cot x})\, dx = \sqrt{2}\, \pi$

Q.45 Find $\int \frac{\cos x\, dx}{(2+\sin x)(3+4\sin x)}$

Q46 Evaluate : $\int (x-3)\sqrt{x^2 + 3x - 18}\, dx$

Q47. Find $\int_0^{\frac{\pi}{2}} \log \sin x\, dx$

Q48. Find $\int \sin x . \sin 2x . \sin 3x\, dx$