Code. No. 12/Business Studies/**06-12-14**/NLCS/80

Half Yearly Examination 2014 – 15

Time: 3:00 Hrs. **M.M. 80**

Q.1 Which function of management ensures issuing of Instructions and orders and also motivates the employees? **1**

Q.2 Which principle of management insists "workers should be encouraged to develop and carry out their plans for development". Name that principle? **1**

Q.3 "Infosys Ltd. Decided to give 20% of jobs to women". What type of plans is it? **1**

Q.4 Name the method of training suitable for plumbers, electricians and iron workers. **1**

Q.5 Which pattern of communication indicates one source of information? **1**

Q.6 Canara Bank wants to open a New Branch of his bank. What is this decision called? **1**

Q.7 "They don't sell what they can make, but they make what they can sell". Name the marketing concept to which this statement is related? **1**

Q.8 The earlier approach of caveat emptor which means "let the buyer beware" has now been changed to what? **1**

Q.9 "It pays to advertise". Do you agree which this statement? Give any two reasons. **3**

Q.10 What relationship do you see between the movement of indices in world market and NSE indices? **3**

Q.11 Explain to a newly appointed foreman under whose supervision, school bags are being made, How has he to carry out the process of control? **3**

Q.12 Define job analysis? **3**

Q.13 Give any three positive and three negative effects of liberalization and Globalization. **3**

Q.14 Management is considered as a full-fledged profession. Do you agree with this statement? Give reasons to support your answer? **4**

Q.15 How do the techniques of time study and motion study help in improving the efficiency level? **4**

Q.16 "Sometimes planning fails in spite of the best efforts of management". Do you agree? Give any four reasons in support of your answer? **4**

Q.17 Name the concept related to and explain it. **2+2=4**

(i) Searching for prospective candidates

(ii) Streamlining the attributes of a person required for doing a job.

Q.18 "SEBI is the watchdog of security market"? Comment. **4**

Q.19 What is meant by direct channels of distribution? List any three methods of direct distribution. **1+3=4**

Q.20 A company wants to modernize its product. What functions or decisions should be taken by each level to carry on this task? **5**

Q.21 There are two managers Ram and Mohan. Ram is saying "controlling is forward looking" but Mohan is saying "controlling is backward looking". Who is correct? Explain why? **5**

Q.22 Explain the role of consumer organization and NGO in consumer protection? **5**

Q.23 What is marketing management? Explain any five functions of marketing? **1+5=6**

OR

What is sales promotion? Explain any five techniques of sales promotion? **1+5=6**

Q.24 "The post of supervisor should be abolished in the hierarchy of managers". Give comments. **6**

OR

Explain followings :- (i) Semantic barrier (ii) Psychological barriers **3+3=6**

Q.25 "There is no need of human resource planning as so many people are available in the market there days". Do you agree with this statement? Give reasons. **6**

OR

Explain the meaning of training and development and explain its various benefits for organization and for employees? **1+5=6**

** ALL THE BEST **

Code. No. 12/Physics/**01-12-14**/NLCS/45

Half Yearly Examination 2014 – 15

Time: 3:00 Hrs. **M. M. 70**

General Instructions :-

(a) All questions are compulsory.
(b) Question No. **1 to 5** are very short answer questions and carry **One mark** each.
(c) Question No. **6 to 10** are short answer questions and carry **Two marks** each.
(d) Question No. **11 to 22** are also short answer questions and carry **Three marks** each.
(e) Question No. **23** may be value based carrying **Four mark**.
(f) Question No. **24 to 26** are long answer questions and carry **Five marks** each.
(g) Use log tables if necessary. Use of calculator is not allowed.

$$C = 3\times10^{8}\, m/s, h = 6.63\times10^{-34}\, js,\ e = 1.6\times10^{-19} C.$$

$$\mu_0 = 4\pi\times10^{-7} Tm/A,\ \frac{1}{4\pi\varepsilon_0} = 9\times10^{9}\ Nos^2/C^2$$

$$m_e = 9.1\times10^{-31} kg,\ m_p = 1.67\times10^{-27} kg.$$

Q.1 A ray of light, incident on an equilateral glass prism. (μ glass= $\sqrt{3}$) moves parallel to the base of the prism inside it. What is the angle of incidence for this ray.

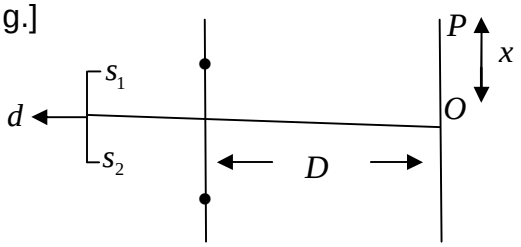
Q.2 A capacitor of capacitance C, is being charged up by connecting it across a DC voltage source of voltage V. How do the conduction and displacement currents, in this set up compare with each other.
(a) during the charging up process. (b) after the capacitor gets fully charged.

Q.3 A resistance R is connected across a cell of emf E and internal resistance r. A potentiometer now measures the potential difference between the terminals of the cell as V. Write the expression for "r" in terms of E, V and R.

Q.4 Show, on a graph, the nature of variation, of the de-broglie wave length (λ_β), with the accelerating potential (v), for an electron initially at rest.

Q.5 The mean life of a radioactive sample is Tm. What is the time in which 50% of this sample would get decayed?

Q.6 The intensity, at the central maxima (o) in Young's double slit set up is I_0, if the distance OP equals one third of the fringe width of the pattern, show that the intensity, at point p, would equal $I_0/4$.[see fig.]

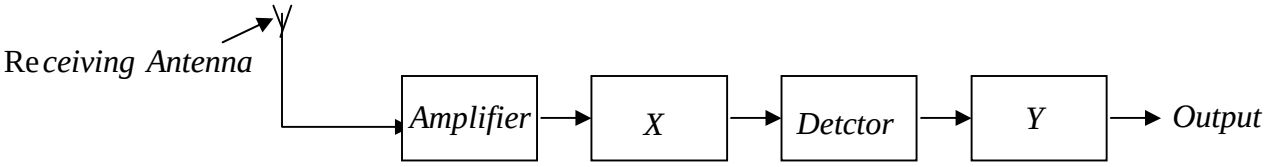


Q.7 An electric heater is connected, turn by turn, to a DC and AC sources of equal voltages will the rate of heat production be same in the two cases. Explain.

Q.8 Two students A and B prepare the following table about the electromagnetic waves. Rewrite this table in its corrected form.

	Direction of			Peak value of	
Student	electricfield	Magneticfield	Propagation	electricfield	Magneticfield
A	Along X-axis	Along X-axis	Along Y-axis	E	B=CE
B	Along Y-axis	Along Z-axis	Along X-axis	E=CB	B

Q.9 In block diagram identify X and Y. State their function.



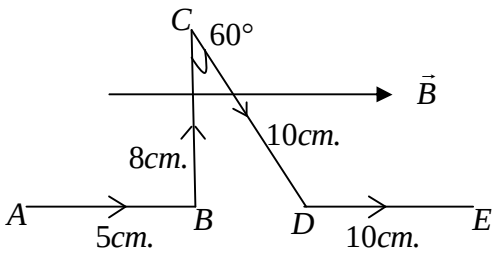
Q.10 Name the physical quantity whose SI unit is becqueral. How is this quantity related to (i) disintegration constant (ii) half life and (iii) mean life of the radioactive element?

OR

Write the equations for the two types of β-decay. Why is it very difficult to detect neutrinos.

Q.11 An electric dipole with charges $\pm q$. with distance 2a between them is placed in a uniform electric field $\vec{E}$. What is the net force acting on the dipole? Write expression for the torque acting on the dipole. Find the amount of work done in rotating an dipole of dipole moment 3.2×10^{-8} cm., from its position of sable equilibrium, to the position of unstable equilibrium, in a uniform electric field of intensity 10^4 N/ c.

Q.12 Why does a current carrying conductor placed in magnetic field experience a force? Find the magnitude of the force on each segment of the wire shown below if a magnetic field of 0.30 T, is applied parallel to AB and DE. Take the value of the current flowing through the wire as 1Ampere.



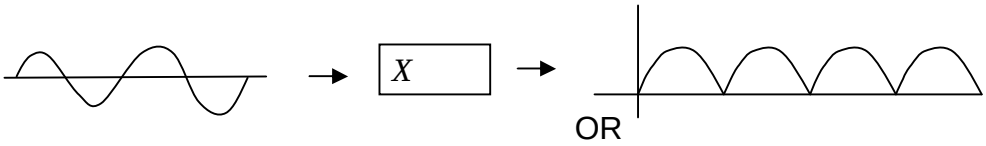
Q.13 State Einstein's equation for photoelectric effect. Find its expression in terms of wave length.

Q.14 A series LCR circuit connected to an AC source of voltage V and angular frequency ω. When only the capacitor is removed, the current lags behind the voltage by a phase angle ϕ and when only inductor is removed, the currents leads the voltage by same phase angle. Find the current flowing and the average power dissipated in the LCR circuit.

Q.15 State Nuclear force. Write two property and draw graph between potential energy and distance mention condition for attraction and repulsion also.

Q.16 Derive the relation between focal length and radius of curvature for concave mirror.

Q.17 Identify X and draw block diagram, write principle and working also.



OR

Define Zener diode. Explain how Zener diode act as a voltage regulator?

Q.18 In the meter bridge ecprrmient, a student observed a balance point at the point J, where AJ= ℓ. Draw the equivalent wheatstone bridge circuit diagram for this set up. The value R and X are both doubled and then interchanged. What would be the new position of the balance point if, in this set up, the galvanometer and battery are inter changed at the balance point position, how will the balance point get affected?

Q.19 A rectangular loop and a circular loop are moving out of a magnetic field to a field free region with a constant velocity. It is given that the field is normal to the plane of both the loops. Draw the expected shape of the graphs, showing the variation of the flux, with time in both the cases. What is the causes of the difference in the shape of the two graphs?

Q.20 Two convex lenses, of equal focal length, but of aperature A_1 and A_2 ($A_2<A_1$) , are used as the objective lenses in two astronomical telescopes having identical eyepieces. Compare the ratio of their (i) resolving power (ii) (normal) magnifying power and (iii) Intensity of image formed by them. Which one of the two telescopes should be preferred? Why?

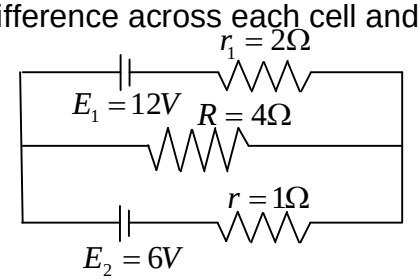
Q.21 Give reasons for the following :

(i) For ground wave transmission, size of antenna should be comparable to wavelength of signal $\lambda/4$.

(ii) Audio singles, converted into an Em wave, are not directly transmitted as such.

(iii) The Amplitude of modulating signal is kept less than the amplitude of carrier wave.

Q.22 Find the potential difference across each cell and the rate of energy dissipation in R



Q.23 Mr. Sriram returns home form an official trip in first week of March and finds that this is examination time for a large number of students, he directly goes to the ceremony site. He talks to the hosts and requests them to reduce the volume or switch off loudspeakers. He also apprises them of law against use of the same after 10p.m.

(i) What are two human qualities exhibited by Mr. Sriram in the above cases.

(ii) Name the device used to rain force the sound.

(iii) Draw a circuit diagram of the device.

Q.24 (a) Define electric dipole moment. Is it a scalar or vector? Derive the expression for the electric field of a dipole at a point on the equatorial plane of the dipole?

(b) Draw the equipotential surfaces due to an electric dipole locate the point where the potential due to the dipole is zero.

OR

Using Gauss' law deduce the expression for the electric field due to a uniformly charged solid spherical conducting shell of radius R at a point (i) out side (ii) inside the solid shell. Plot the graph for same.

Q.25 (i) Draw a ray diagram showing the image formation by a compound microscope. Hence obtain expression for angular magnification when the image is formed at infinity.

(ii) The angle of minimum devation of a prism of refractive index 1.5 is equal to the angle of the prism. Calculate angle of prism. Given $\cos 41° = 0.75$.

OR

(i) State Huygen's principle using this principle draw a diagram to show how a plane wave front incident at the interface of the two media gets refracted when it propagates from a rarer to a denser medium. Hence verify snell's law of refraction.

(ii) When monochromatic light travels from a rares to a denser medium, explain the following, give reason –

(a) Is the frequency of reflected and refracted light same as the frequency of incident light?

(b) Does the decrease in speed imply a reduction in the energy carried by light.

Q.26 (i) How does a paramagnetic material behave in the presence of an external magnetic field? Explain with the help of an appropriate diagram.

(ii) What happens when the temperature of a paramagnetic sample is lowered.

(iii) To which of the two, a polar dielectric or a non-polar dielectric does a paramagnetic material correspond? Justify your answer.

OR

(a) A magnetic dipole is placed in a uniform magnetic field with its axis tilted with respect to its position of stable equilibrium. Deduce an expression for the time period of oscillation of this magnetic dipole about an axis, passing through its centre and perpendicular to its plane.

(b) If this bar magnet is replaced by combination of two similar bar magnets, placed over each other, how will the time period vary?

** ALL THE Best **

Code. No. 12/Economics/**01-12-14**/NLCS/80

Half Yearly Examination 2014 – 15

Time: 3:00 Hrs. **M. M. 100**

General Instructions :-

(i) All questions in both the section are compulsory.
(ii) Marks for questions are indicated against each.
(iii) First Four of both the section carrying One Mark each.
(iv) Questions carrying Three Marks are short answer and should be answered within 60 words.
(v) Question carry Four Marks should be answered in about 70 words.
(vi) Answer to Six Marks questions should be in 100 words.
(vii) Answer should be brief and to the point and the above word limit be adhered to as for as possible.

Section - A

Q.1 Demand for luxury is ---- **1**
(a) elastic (b) inelastic (c) perfectly elastic (d) perfectly inelastic

Q.2 Which of the following statement is true - **1**
(a) Flatter the demand curve less will be the elasticity
(b) Steeper the demand curve more will be the elasticity
(c) Flatter the demand curve more will the elasticity
(d) Steeper demand curve represents perfectly inelastic demand

Q.3 Define supply. **1**

Q.4 In which market form there are no substitutes of the commodity sold? **1**
(a) Monopolistic competition (b) Monopoly
(c) Perfect competition (d) Oligopoly

Q.5 Our underground water table is depleting day by day. Explain any two ways by which depletion can be checked. **3**

Q.6 Market for a good is in equilibrium. There is an increase in demand for this good. Explain the chain of effects of this change. **3**

Q.7 Complete the following table : **3+1=4**
(a) (b) Define PPC?

Units	AR	MR	TR
1	-	15	-
2	-	-	26
3	11	-	-
4	-	3	-

Q.8 Price elasticity of demand of a good is -1. The consumer buys 50 units of that good when price is ì 2 per unit. How many units will consumer buy if prices rises to ì 4 per unit? Answer the question with the help of total expenditure method. **4**

Q.9 Under perfect competition the seller is a price taker & under monopoly. He is price maker. Explain? **4**

Q.10 Distinguish between change in quantity supplied and change in supply. **4**

Q.11 "Vegetable Market is best example of perfect competition market". Comment. **6**

Q.12 Explain with the help of a schedule how a producer attains equilibrium with the help of MR-MC approach. **6**

Q.13 A consumer consumers only two goods X & Y. At a consumption level of these two, he finds that the ratio of MU to price in case of X is higher than in case of Y. Explain the reaction of consumer. **6**

OR

Explain three reasons behind operation of law of increasing returns to a variable factor.

Q.14 Define Marginal Rate substitution. Explain the properties of Indifference curve. **6**

Section - B

Q.15 Define a closed economy. **1**

Q.16 Which of the following means printings of new currency notes to tackle budget deficit? **1**
(a) Open market operations (b) Deficit financing (c) Margin Requirement
(d) Moral Suasion

Q.17 What is the significance of revenue deficit? **1**

Q.18 Which monetary system is followed by India at present? **1**

Q.19 What precautions are necessary while using value added methods of measuring national income? **3**

Q.20 In an economy MPC is 0.75. Investment expenditure in the economy increases by ì 75 crore calculate total increase in national income. **3**

Q.21 Are Fiscal deficit necessarily inflationary? **3**

Q.22 What does deficit in current account of balance of payment indicates? **3**

Q.23 What will be the value of multiplier if entire additional income is converted into additional consumption? **3**

Q.24 Giving reasons classify the following into direct tax and indirect tax : **3**
(i) Wealth Tax (ii) Entertainment Tax (iii) Income Tax

Q.25 Do you think banking structure in India has been able to provide benefits to the needy & the poor? **4**

Q.26 Calculate 'National Income' and 'Private Income' from the following data : **6**

		(ì in crores)
(i)	Net current transfer from Rest of the World	10
(ii)	Private final consumption Expenditure	600
(iii)	National debt interest	15
(iv)	Net exports	(-) 20
(v)	Current transfer from government	5
(vi)	Net domestic product at factor cost accruing to government	25
(vii)	Government final consumption expenditure	100
(viii)	Net indirect tax	30
(ix)	Net domestic capital formation	70
(x)	Net factor income from abroad	10

Q.27 (a) Explain the format of Expenditure method to calculate National Income. **3**
(b) What precautions kept in mind while using income method for calculating National Income **3**

Q.28 Why commercial banks are known as factories of credit? Explain. **6**

OR

Explain the process of money creation by commercial banks.

Q.29 Answer the following : **6**
(i) What is foreign exchange market? State its functions.
(ii) Find consumption expenditure from the following :
National Income = ì 5000
Autonomous expenditure = ì 1000
MPC = 0.80

** ALL THE BEST **

Code. No. 12/Chemistry/**06-12-14/**NLCS/45

Half Yearly Examination 2014 – 15

Time: 3:00 Hrs. **M. M. 70**

General Instructions :-

(i) All questions are compulsory.
(ii) Question No. **1 to 5** are carrying **One Mark** each.
(iii) Question No. **6 to 10** are carrying **Two Marks** each.
(iv) Question No. **11 to 22** are carrying **Three Marks** each.
(v) Question No. **23** is carrying **Four Mark**.
(vi) Question No. **24 to 26** are carrying **Five Marks** each.

Q.1 Bond enthalpy of Fluorine is lower than that of Chlorine. Why? **1**

Q.2 Give the IUPAC name of following compound. $(CH_3)_3 - C - \underset{\underset{O}{\|}}{C} - \underset{\underset{O}{\|}}{C} - O - H$. **1**

Q.3 On increasing term activation energy of a reaction decreases why? **1**

Q.4 Which Xe compound has distorted octahedral shape? Draw the structure also? **1**

Q.5 Which of the following is most effective electrolyte in the Co-agulation of AgI/Ag^+ Sol.? **1**

K_2SO_4, $MgCl_2$, $K_4[Fe(CN)_6]$

Q.6 Calculate the limiting molar conductivity of $CaSO_4$. Limiting molar conductivity of Ca^{2+} & SO_4^{2-} are 119.0 & 160.0 S cm^2 mol^{-1} respectively. **2**

Q.7 Do the following conversion – **2**

Methyl bromide to acetone

Q.8 Write the overall reaction dating place in the process used for the electrolysis of Alumina by Hall – Heroult process. **2**

Q.9 Write overall cell reaction for lead storage battery when the battery is being charged. **2**

Q.10 Formic acid reduces Tollen's reagent. Explain. **2**

Q.11 (i) Suggest a quantitative method for estimation of the gas which protects us from U.V. Rays of the sun? **3**

(ii) Draw the structure of phosphinic acid & write a reaction for its use as reducing agent?

Q.12 Explain why alcohols do not react with NaBr but when H_2SO_4 is added they form alkyl Bromide. **3**

Q.13 Wurtz reaction fails in case of 3° – alkyl halides. Explain. **3**

Q.14 What can be inferred from the magnetic moment values of the following :- **3**

$K_4[Mn(CN)_6]$	$K_2[MnCl_4]$	$[Fe(H_2O)_6]^{2+}$
B.M.-2.2	B.M-5.9	B.M-5.3

Q.15 What is meant by disproportionation? Give two example of disproportionation reaction in aq. Solution. **3**

Q.16 Why dioxygen a gas but sulphur a soild. **3**

Q.17 Explain the role of - (i) Cryolite in the electrolytic reduction of alumina. **3**

(ii) Carbon monoxide in the purification of Nickel.

Q.18 Give Three example of heterogeneous catalysis. **3**

Q.19 The activation energy of a reaction is zero will the rate constant of the reaction depends on the temperature? Give reason. **3**

Q.20 The chemistry of corrosion of iron is essentially an electrochemical phenomenon. Explain the reaction occur during the corrosion of iron in the atmosphere. **3**

Q.21 What is – (i) crenation (ii) Anoxia **3**

Q.22 Classify each of following solid as ionic, metallic, molecular, network or amorphous : **3**

(i) P_4O_{10} (ii) Graphite (iii) Brass (iv) $(NH_4)_3PO_4$ (v) SiC (vi) Rb

(vii) $RbCl_2$ (viii) I_2 (ix) HBr (x) P_4 (xi) Si (xii) Plasitc

Q.23 In the button cell, widely used in watches, the following reaction takes place : 4

$$Zn_{(S)} + Ag_2O_{(S)} + H_2O_{(\ell)} \rightarrow Zn^{2+} + 2Ag_{(S)} + 2OH^-_{(aq.)}$$

Determine E° & $\Delta G°$ for the reaction (given E° $Ag^+/Ag = +80V$) (E° $Zn^{2+}/Zn = -0.76V$)

Q.24 Explain the bonding in Co-ordination compounds in terms of Werner's postulates.

OR

Write IUPAC name for – **5**

(i) $[C_0(NH_3)_6]\ Cl_3$ (ii) $[Ni(NH_3)_6]Cl_2$ (iii) $[Ti(H_2O)_6]^{3+}$ (iv) $[NiCl_4]^{2-}$ (v) $[C_0(en)_3]^{3+}$

Q.25 Sulphonation of Aniline does not form O isomer even through – NH_2 is ortho & para directing. **5**

OR

Explain the Alkaline order in Amines.

Q.26 Arrange the following the decreasing order of acidity – phenol, o-cresol, p-cresol, m-cresol. **5**

OR

Phenol do not undergo substitution at carbon of $C-O-H$ bond. Why?

** ALL THE BEST **

Code. No. 12/Physical Education/**03-12-14**/NLCS/65

Half Yearly Examination 2014 – 15

Time: 3:00 Hrs. **M. M. 70**

Part - A

Q.1 What do you mean by positive sports environment? **1**

Q.2 Who is a spectator? **1**

Q.3 What is anorexia nervosa? **1**

Q.4 What do you mean by adventure sports? **1**

Q.5 Mention the qualities of a good leader. **1**

Q.6 What do you mean by weight training? **1**

Q.7 Define potential energy. **1**

Q.8 What do you mean by anxiety? **1**

Q.9 Describe the need and importance of sports environment. **2**

Q.10 What is rock climbing? Explain in brief. **2**

Q.11 State any two factors which affect the projectile trajectory. **2**

Q.12 Define work with examples in the field of sports. **2**

Q.13 State about balance ability and rhythm ability. **2**

Q.14 Mention Micro nutrients and their functions. **3**

Q.15 Give the physiological benefits of exercise on children. **3**

Q.16 Explain any three techniques of motivation for higher achievements in sports. **3**

Q.17 Explain the methods of improving speed. **3**

Q.18 What is a league tournament? Draw a fixture of six teams using round Rubin method. **5**

Q.19 Explain the causes, precautions and remedies of knonk knees. **5**

Q.20 Explain sit and reach test in detail. **5**

Q.21 No one can stop the clock of ageing but physical exercise can slow its tick. Give your comment. **5**

Part - B

Q.22 Write in brief about your game. **10**

(i) Any four fundamental skills.
(ii) Any four related terminologies.
(iii) Any four sports personalities.
(iv) History of game.
(v) Measurement of play field.

Q.23 Explain about common sports injuries. **5**

Q.24 Short notes on : **5**

(i) Rajiv Gandhi Khel Ratna Award.

(ii) Indian Olympic Association. (IOA)

** ALL THE BEST **

Code. No. 12/Mathematics/**08-12-14**/NLCS/50

Half Yearly Examination 2014 – 15

Time: 3:00 Hrs. **M. M. 100**

General Instructions :-

(i) All questions are compulsory.

(ii) The Question paper consists of 26 questions divided into there Sections A, B & C, **Section A comprise of 6 questions of One Mark each, Section B comprises of 13 questions of Four Marks each and Section C comprises of 7 questions of Six Marks each.**

(iii) All questions in Section A are to be answered in One word, One sentence or as per the exact requirement of the question.

(iv) There is no overall choice. How ever, internal choice has been provided in 4 questions of Four Marks each and 2 questions of Six Marks each.

Section - A

Q.1 What is the value of $|4\ I_3|$, where I_3 is the identity matrix of order3?

Q.2 If A is a matrix of order 3×4 and B is a matrix of order 4×3, what is the order of matrix $(AB)'$?

Q.3 Write the number of one-one functions form the set A={1,2,3} to itself.

Q.4 If $\tan^{-1}2-\tan^{-1}1=\tan^{-1}x$, then find x.

Q.5 Find the value of P, such that the line $\frac{x-3}{12}=\frac{y+1}{p}=\frac{z-3}{-9}$ is perpendicular to $4x+y-3z=5$.

Q.6 If $\vec{a}=\vec{i}+2\vec{j}-3\vec{k}$ and $\vec{b}=2\vec{i}+4\vec{j}-5\vec{k}$, find a unit vector parallel to $\vec{a}+\vec{b}$.

Section - B

Q.7 Show that the function f : R→R given by $f(x)=4x^3-7$ is a bijective function. Find its inverse also.

Q.8 Show that the function $f(x)=|x-1|$ is continuous but not differentiable at $x=1$.

OR

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

Q.9 Prove that : $\sin^{-1}\frac{3}{5}+\sin^{-1}\frac{8}{17}=\sin^{-1}\frac{77}{85}$, by method and not by direct formula.

Q.10 Using properties of determinants, prove that :

$$\begin{vmatrix} x+y & x & x \\ 5x+4y & 4x & 2x \\ 10x+8y & 8x & 3x \end{vmatrix} = x^3$$

Q.11 Assuming that petrol burnt per hour in driving a motorboat varies as the cube of its velocity. Show that the most economical. Speed when going against a current of pkm/hr is $\frac{3p}{2}$ km/hr.

Q.12 Verify Rolle's theorem for the function $f(x)=e^x\cos x$ on interval $x\leftarrow\left[-\frac{\pi}{2},\frac{\pi}{2}\right]$.

Q.13 Find the value of λ, so that the lines –
$\frac{1-x}{3}=\frac{y-2}{2\lambda}=\frac{z-3}{2}$ and $\frac{x-1}{3\lambda}=\frac{y-1}{1}=\frac{6-z}{5}$ are perpendicular. Also find the direction ratios of a line that is normal to both above lines.

Q.14 On a multiple choice examination with three possible answers for each of the five questions, what is the probability that a candidate would get four or more correct answers just by guessing.

OR

Three persons X, Y, Z throw a die in succession till one gets a 'six' and wins the game. Find their respective probabilities of winning.

Q.15 Evaluate : $\int_0^{\pi/2} \sin 2x \tan^{-1}(\sin x)\,dx$. **OR** $\int_{-1}^{3/2} |x \sin \pi x|\,dx$.

Q.16 If $\vec{a}\times\vec{b} = \vec{c}\times\vec{d}$ and $\vec{a}\times\vec{c} = \vec{b}\times\vec{d}$, Show that $\vec{a}-\vec{d}$ is parallel to $\vec{b}-\vec{c}$, where $\vec{a}\neq\vec{d}$ and $\vec{b}\neq\vec{c}$.

Q.17 Evaluate : $\int \sqrt{\frac{\sin(x-a)}{\sin(x+a)}}\,dx$ **OR** $\int \frac{1}{\sin^2 x + \sin 2x}\,dx$

Q.18 Evaluate : $\int \frac{e^x}{(1+e^x)(2+e^x)}\,dx$.

Q.19 If $y = \sqrt{x^2+1} - \log\left(\frac{1}{x} + \sqrt{1+\frac{1}{x^2}}\right)$, find $\frac{dy}{dx}$ and express it in simplest form.

Section - C

Q.20 A company manufactures chairs and tables, each requiring the use of three machines A, B and C. Production of each chair requires 2 hours on machine A, 1 hour on machine B and 1 hour on machine C. Each table requires 1 hour each on machine A and B and 3 hours on machine C. The profit obtained by selling one chair is ì 30 while by selling one table the profit is ì 60. The total time available per week on machine A is 70 hours, on machine B is 40 hours and on machine C is 9 hours. How many chairs and tables should be made so as to maximize profit? Formulate the problem as LPP and solve it graphically.

Q.21 Use product : $\begin{bmatrix} 1 & -1 & 2 \\ 0 & 2 & -3 \\ 3 & -2 & 4 \end{bmatrix}\begin{bmatrix} -2 & 0 & 1 \\ 9 & 2 & -3 \\ 6 & 1 & -2 \end{bmatrix}$ to solve the system of equations : $\begin{aligned} x-y+2z &= 1 \\ 2y-3z &= 1 \\ 3x-2y+4z &= 2 \end{aligned}$.

Q.22 (i) A man is known to speak truth 3 out of 4 times. He throws a die and reports that it is a number 6. Find the probability that it was actually a number6.

(ii) Truth is an essential human value, comment.

Q.23 Find the distance of the point (2,3,4) from the line $\frac{x+3}{3} = \frac{y-2}{6} = \frac{z}{2}$ measured parallel to the plane $3x+2y2z+5=0$.

OR

Find the image of point (1,6,3) in the line $\frac{x}{1} = \frac{y-1}{2} = \frac{z-2}{3}$.

Q.24 Using integration, find the area of the region bounded by the lines $4x-y+5=0, x+y-5=0$ and $x-4y+5=0$.

Q.25 An open box with a square base is to be made out of a given quantity of sheet of area a^2, without any wastage. Show that the maximum volume of the box is $\frac{a^3}{6\sqrt{3}}$.

Q.26 Prove that the following differential equation is a homogenuse equation. $(x^2+xy)\,dy + (3xy+y^2)\,dx = 0$. Also find its general solution.

** ALL THE BEST **

Half Yearly Examination 2014 – 15

Time: 3:00 Hrs. **M. M. 70**

Q.1 (i) What is the difference between #define and const? Explain with suitable example. **2**

(ii) Write the names of the header files, which is/are essentially required to run the following C++ code:

```
void main ( )
{char string [ ] = "I am in twelth class";
        cout << setw (12) << string;
}
```
1

(iii) Rewrite the following program after removing the syntactical errors (if any) underline each correction.

```
# include [iostream.h]
Structure Swimmingclub
{int memnumber;
char memname[20];
char memtype="LIG";
};
void main ( )
{Swimmingclub p1,p2;
cin>>memnumber.p1;
cout<<"member name:";
cin>>p1.membername;
p1.memtype="HIG";
p2=p1;
cin<<"member number:"<<p2.member;
cin<<"member name"<<p2.memname;
cin<<"member type"<<p2.memtype;
}
```
2

(iv) Find the output of the following program

```
#include <iostream.h>
#include<ctype.h>
void main ( )
{char Text [ ] = "what@OUTPUT!";
for [int i=0; Text [i] != '\0'; i++]
{if (!isalpha (Text [i]))
        Text [i]= '*';
else if (isupper(Text[i]))
Text [i]=Text [i]+1;
else
        Text [i] = Text [i+1];
}       cout<<Text;
}
```
3

(v) Find the output of the following program:-

```
#include < iostream.h>
void main ( )
{int A=10, B= 20;
for (int ℓ =1; ℓ <=2; ℓ ++)
{       cout << "[1]"<<A++<< "&"<<B – 5<<endl;
        cout<< "[2}" <<++B<< "&"<<A+2<<endl;
        }
        }
```
2

(vi) In the following program, find the correct possible output (s)form the options (1) to (w) **2**

```
#include<iostream.h>
#include<stdlib.h>
void main ( )
{       randomize ( ) ;
        char Name [ ] [10]={"DEEPAK", "CHINTU", "KAVITA", "BARBIE", "NINZA"};
int Me;
for ( int ℓ =0; ℓ <=2; ℓ ++)
{       Me=random (2)+1;
                cout<< Name [Me]<< " : " ;
        } }
```

(a) DEEPAK : CHINTU:KAVITA (b) CHINTU:KAVITA:CHINTU

(c) KAVITA:BARBIE:NINZA (d) KAVITA:CHINTU:KAVITA

Q.2 (i) Differentiate between private & protected visibility modes in content of object oriented programming using suitable example illustrating both. **2**

(ii) Answer the question (i) and (ii) after going through the following program :

```
#include<iostream.h>
#include<string.h>
class Mall
{       char Type [20]; char product [20];
        int qty; float price;
        Mall ( )                                //Functiona 1
        {       strcpy (Type, "Electronic");
                strcpy (product, "Laptop");
                        qty=20;
                        price=32500;
}
pubic :
        void Display ( )                        //Function 2
        {       cout << Type << "–"<< product << ":" << qty
                << "@"; cout << price << endl;
}
};
        void main ( )
{       Mall M;                                 // Statement 1
        M.Display ( );                          //Statement 2
}
```

(a) Will statement 1 Initialize all the data members for object M with the values given in the function 1? (Yes Or No). Justify your answer suggesting the correction (S) to be mode in above code.

(b) What will be the possible output when the program gets executed? (Assuming, if required the suggested correction (S) are made in the program). **2**

(iii) Define a class ITEM in C++ with the following descriptions :

Private Members :

Code of type integer (item code)

Iname of type string (item name)

Price of type float(price of each item)

Qty of type integer(quantity of the item in the stock)

Offer of type float(offer percentage of the item)

A function GetOffer ( ) which calculates offer percentage as follows :

If Qty <=50 Offer is 0

If Qty>50 and <=100 Offer is 5

If Qty>100 Offer is 10

Public Members :

→ A function GetStock ( ) to input the values of the data members Code,Iname,Price,Qty . invoke function GetOffer( ) to calculate the Offer.

→ A function ShowItem ( ) which display the content of all the data members. **4**

(iv) Answer the questions (i) to (iv) based on the following Code :

```
class MNC
{   int Cname[25];
    Protected :
            char Hoffice[25];
    public ;
                    MNC ( ) ;
                    char Country[25];
                    void EnterData ( ) ;
                     void DisplayData ( );
};
    Class Branch : public MNC
{   int NOE;
    char Ctry [25];
    protected: void Association();
    public :
                    Branch( ) ;
                    void Add ( ) ;
                    void Show ( );
};
    class Outlet : public Branch
{   charState [25];
    public :
            Outlet ( );
            void Entet ( );
            void Output( );
};
```

(i) Which class's constructor will be called first at the time of declaration of an object of class Outlet . **1**

(ii) How many bytes does an object belonging to the class Outlet requires? **1**

(iii) Write names of all the member functions accessible from the class Outlet? **1**

(iv) Write names of all data members accessible by an object of the class Branch. **1**

Q.3 (i) Write a function REVERSE ( ) in C ++, which accepts an integer array and its size as parameters and rearrange the array in reverse eg. If array is –
1, 2, 3, 4, 5, 6, 7,8, 9, 10
the after function calling array will be 10, 9, 8, 7, 6, 5, 4, 3, 2, 1. **3**

(ii) An array A [40] [10] is stored in the memory along the column with each element occupying 4 bytes. Find out the address of the location A [3] [6] if the location A [30] [10] is stored at the address 3200. **3**

(iii) Write a function in C++ to insert an element into a dynamically allocated queue where each node contains a name (of type string) as data.Assume the following definition of NODE for the same:4

```
struct NODE
{       char Name [30];
        NODE  * NEXT;
};
```

4

(iv) Write a function in C++ to print the transpose of a two dimensional integer array of size M×N. **2**

(v) Evaluate the following postfix notation of expression (show status of stack after execution of each operation. 6,10, 5 +,*, 18, 3,/,- **2**

Q.4 (i) Observe the program segment given below and answer the question that follows :

```
class student
{       long SId;               //Student's Id
        char Name [30];         // Name
        float Score;            // St. Score
public :
                void Enroll ( ) ;
                void Disp ( ) ;
                void MarkScore();
        long R_SId ( ) { return (SId); }
};
                void scoreupdate (long Id)
{       fstream File;
        File.Open ("STUD. DAT", ios : : binary |ios : : in | ios : : out);
        student S;
        int Record=0, Found = 0;
        While (!Found &8 File. read ((char*) &S, sizeof (S)))
{       if ( Id = = S.R_ SId( ) )
        {       cout << "Enter new record";
                S MarkScore ( ) ;
                ---------- // Statement (1)
                ---------- // Statement (2)
        Found=1;
        }
Record++;
if(Found==1)
cout<<record updated";
File.close();
}
}
```

Write the statement1 to position the file pointer at the beginning of the record for which the student's Id matches with the argument passed and statement 2 to write the updated record at the position. **1**

(ii) Write a function in C++ to count the number of word "the" in a text file "TRY, TXT". **2**

(iii) Given a binary file PHONE. DAT, containing record of the following structure type.

```
        class phonelist
{       char Name [40]; char Address [30];
        char AreaCode [5]; char PhoneNo[15];
        public :
                void Register ( ) ;
                void Show ( );
        int checkcode (char AC[])
{       return strcmp (Areacode,AC);}
};
```

Write a function TRANSFER ( ) in C++, that would copy all those records which are having Area code as "DEL" from "PHONEDAT" to "PHONEBACK.DAT". **3**

Q.5 (i) What do you understand by DML? Give examples. **2**

(ii) Consider the following tables TEACHER and SALARY and answer (b) and (c) part of this question.

(b) Write SOL commands for the following statements : **4**

(a) To display FIRSTNAME, LASTNAME of teachers teaching computer.
(b) To count number of PGT's.
(c) To display FIRSTNAME and Total Salary of all PGT's, where Total Salary is Salary + Bonus.
(d) To display sum of salary of all TGT's.

Table : TEACHER

T_Id	FIRSTNAME	LASTNAME	ADDRESS	SUBJECT
005	Rahul	Agarwal	111, Nehru Nagar	Computer
101	Meena	Gupta	Ashok Nagar	Economics
106	Pankaj	Sharma	Lohia Nagar	Physics
109	Radha	Sharma	New Street	Hindi
135	Rachit	Puri	Rohini	Chemistry
140	Anita	Singh	South Ex.	Chemistry
205	Sunil	Pal	Lok Vihar	Mathematics

Table : SALARY

T_Id	DESIG	SALARY	BONUS
005	PGT	10500	2000
101	PGT	9500	1800
106	PGT	9000	1500
109	TGT	8000	1200
135	PGT	8500	1800
140	PGT	82500	1400
205	TGT	7000	1200

(c) Give output for the following Sol. Queries : **2**

(a) SELECT DISTINCT DESIG FROM SALARY;
(b) Select DESIG Max (SALARY) FROM SALARY group by DESIG;
(c) Select T. FIRSTNAME, S.SALARY FROM Teacher T, Salary S where S DESIG= "TGT" and T. T__Id =S.T__Id;
(d) Select sum (SALARY) From SALARY where Desig= "TGT";

Q.6 (i) State and verify De Morgan's law in Boolean Algebra. **2**

(ii) Draw a logical circuit diagram for the following Boolean expression: **2**
$A'.(B'+C)$

(iii) Convert the following Boolean expression into its equivalent canonical SOP form :
$(X'+Y+Z').(X'+Y+Z).(X'+Y'+Z).(X'+Y'+Z')$ **1**

(iv) Reduce the following Boolean expression using
K-Map : F (A, B, C, D) = $\sum$ (0,2, 3, 4, 5, 6, 7, 8, 10, 12,) **3**

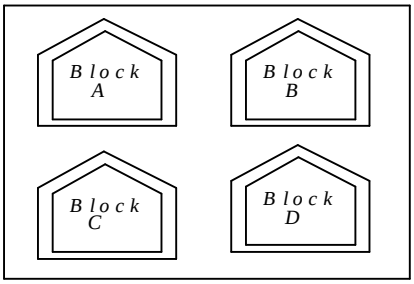
Q.7 (i) Define (a) twisted pair (b) Bandwidth (c) coaxial cable . **2**

(ii) Differentiate ring topology and bus topology. **2**

(iii) What is the importance of URL in networking? **1**

(iv) Give full form of the following :- **1**
(a) FLOSS (b) GNU

(v) Oxford University has set up its new center at Mumbai for its office and web based activities. The compound has 4 buildings as shown in the diagram below :



Center to center distances between various blocks as follows :

Block A to Block B	50 m
Block B to Block C	70m
Block C to Block D	25m
Block A to Block D	170m
Block B to Block D	125m
Block A to Block C	90m

Number of computers in each of the Blocks is as follows :

Block A	25
Block B	50
Block C	125
Block D	10

(a) Suggest a cable layout of connections between the blocks. **1**

(b) Suggest the most suitable place (ie. Block) to house the server of this organization with a suitable reason. **1**

(c) Suggest the placement of the following device with justification. **1**
(A) Repeater (B) Hub / switch

(d) The organization is planning to link its front office situated in the city in a hilly region where cable connection is not feasible, suggest any economic way to connect it with reasonably high speed? **1**

** ALL THE BEST **

Code. No. 12/Biology/**08-12-14/**NLCS/18

Half Yearly Examination 2014 – 15

Time: 3:00 Hrs. **M. M. 70**

Instructions: All questions are compulsory. **Section A has Q.No.1 to 5 carrying 1 mark each**.
Section B has Q.No.6 to 10 carrying 2 marks each.
Section C has Q.No. 11 to 22Carrying 3 marks each.
Q.23 is a value based question and carries 4 marks.
Q.24 to 26 are 5 marks question where an internal choice has been provided.

Section A

Q1. Mention any two events that are inhibited by the intake of oral contraceptive pills to prevent pregnancy in humans.

Q.2 When is a tumour referred to as malignant?

Q.3 Name the varieties of rice from which semi dwarf varieties have been developed.

Q.4 Expand EFB.

Q.5 What is Flavr Savr?

Section B

Q.6 (i) Why are Drosophila and grasshopper said to show male heterogamety? Explain.
(ii) Explain female heterogamety with an example.

Q.7 What is splicing? Why is it necessary?

Q.8 What is biofortification and what are its objectives?

Q.9 Explain the role of Baculoviruses as biological control agents. Mention their importance in organic Farming.

Q.10 Why are cloning vectors necessary in cloning? Name any two such vectors that are used in experiment with E. coli.

Section C

Q.11 Give reasons why?
(i) Most zygotes in angiosperms divide only after certain amount of endosperm is formed.
(ii) Groundnut seeds are albuminous while castor seeds are exalbuminous.
(iii) Micropyle remains as a small pore in the seed coat of a seed.

Q.12 Name and explain the role of inner and middle walls of the human uterus.

Q.13 Why has the use of condoms increased over years? Give any 3 reasons.

Q.14 (a)Sickle cell anaemia in humans is a result of point mutation. Explain.
(b) Write the genotypes of both the parents who have produced a sickle celled anaemic offspring.

Q.15. Differentiate between m-RNA and t-RNA.

Q.16. What is adaptive radiation. Explain with the help of a suitable example where adaptive radiation has occurred to represent convergent evolution.

Q.17 (a) State the structure of an immunoglobulin molecule.

(b)What are interferons? Write their functions.

Q.18. (a) How is a mature insulin different from proinsulin secreted by pancreas ?

(b) Explain how was human functional insulin produced using rDNA technology?

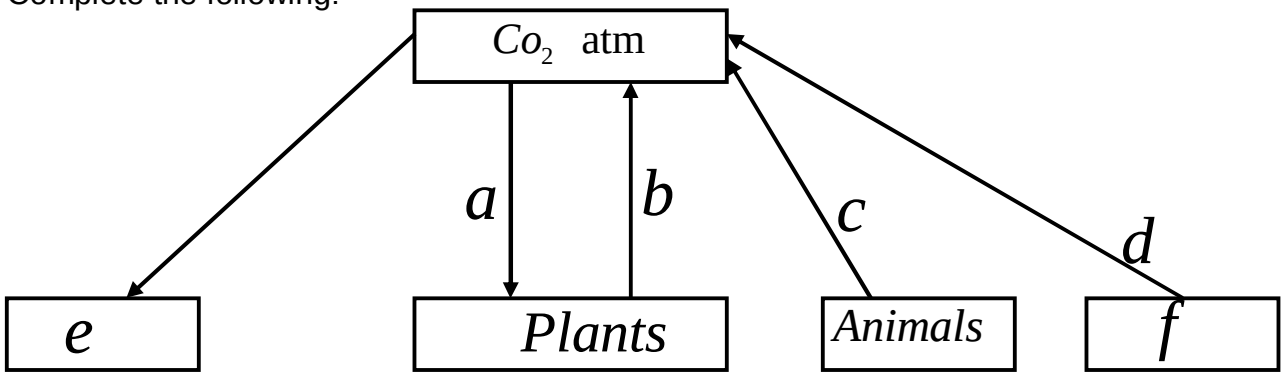
(c) Why functional insulin thus produced considered better than one used earlier by diabetic patients?

Q.19. (a) Describe the characteristics a cloning vector must possess.

(b) Why can't DNA pass through cell membranes. How can it be made competent to take up recombinant DNA from medium.

Q.20. What is decomposition and describe the steps involved.

Q.21. Complete the following:



Q.22 Differentiate between Exponential & Logistic growth form.

Q.23 Vasant was astonished to see the Bryophyllum plant growing in a pot in the backyard of a house with small leaves growing in notches of the main Bryophyllum leaf. He wanted to know how the leaves are being produced without seed on Bryophyllum leaf.

Q.24 Give an account of helical structure of DNA as suggested by Watson & Crick. Also explain Chargaff's rule.

OR

What is a genetic code. Explain in detail the properties of a genetic code.

Q.25 (a) Differentiate between

(i) Commensalism and ammensalism. (ii) Mutualism and competition.

(b) Why are herbivores considered similar to predators in ecological context.

OR

(a) Explain Rivet Popper hypothesis. Name the ecologist who proposed it.

(b) What is alien species invasion. Give an example.

Q.26 (a) Expand MOET. Explain the procedure of this technology in cattle improvement.

(b) Define & state the importance of Biofortification.

OR

Discuss the different barriers of innate immunity.

** ALL THE BEST **

Code. No. 12/English/**04-12-14**/NLCS/122

Half Yearly Examination 2014 – 15

Time: 3:00 Hrs. **M. M. 100**

General Instructions:

Section A Reading : 30 marks Section B Writing : 30 marks Section C Literature & Long Reading Text : 40 marks

Q.1 Read the passage carefully and answer the questions that follow:

1 Millions of men and women, thousands of leaders, a succession of social, religious and political movements—it is impossible to draw up a full list of the makers of India even on a limited 1000 year basis. All that can be attempted here is to present a few representative names, some of them inspirational still. All of them remind us of the course we have traversed, and how we have come to where we are.

2 Implied in Toynbee's assessment was the deduction that Gandhi was not just an Indian Phenomenon. No doubt India derived unequalled benefit from his leadership. By fitting the freedom struggle into the framework of a philosophy of justice and fairness, he achieved for India a stature that denied to other countries, including China, that won independence around the same time. That the stature was quickly lost by the governments that came to power on the labours of Gandhi is different matter . The decline of India did not amount to any repudiation of Gandhi. Indeed, it was seen as a consequence of the betrayal of Gandhi by his supposed followers.

3 The true measure of his impact on history is that it is not dependent on the successful completion of his mission in India. The others who soldiered on with him in the epic war on independence--- Jawaharlal Nehru and Sardar Patel included will be remembered for what they did in India and for India; they were essentially Indian personalities. So, for that matter , was Jinnah whose life's work boiled down to the creation of a state on what rapidly proved to be a dubious premise.

4 Gandhiji soared above them all because he dealt essentially with ideas and theories relevant to all mankind. Like Buddhism, Gandhism lost ground in the land out of which it evolved. But, like Buddhism, it has been embraced by distant peoples who see in its tenets the promise of meaningful life. It was as though Gandhi's involvement with India was merely incidental to his larger involvement with what he persistently called Truth. Raja Rao put it pithily when he wrote :" For Gandhi India was only the symbol of a universal principle. All countries were, for Gandhi, India." When we look at him in this perspective, we realize that it was his universality, the transcendent quality of his life and thought, that made Gandhi, Gandhi.

5 He will be greater than not just Stalin and Hitler---- two characters who are rather too one-dimensional to be contrasted with the vastness that was Gandhi. Gandhi personifies the greatness of the time-honoured proposition that love is superior to hatred, that good is better than evil. Great patronages of history who based their greatness on hatred and evil , on conquests and oppression, have all gone under.

6 Greatness built on murder and acquisition passes and rising out of compassion and service abides. The great thinkers abide because they gave without taking. They were not men of arms. They were the men of ideas and appear to teach us that the world cannot be conquered force. It was the lesson of this Millennium too---- taught by the Man of the Millennium.

1.1 Choose the most appropriate options from those given below: **3×1=3**

(a) Toynbee assessed that Gandhi was:
(i)the greatest personality ever born on earth (ii)not just an Indian phenomenon
(iii)purely an Indian phenomenon (iv)a phenomenon that defied all assessment

(b) Gandhi was above all others because his ideas and theories:
(i)were relevant to all mankind (ii)transcended humanity
(iii)impressed maximum number of people (iv)influenced the general masses of India

(c) Contrasted with vastness that was Gandhi, Stalin and Hitler were rather too:
(i)one-dimensional (ii)small (iii)unacceptable (iv)aggressive and violent

1.2 Answer the following questions briefly: **6×1=6**

(i) How will Jawaharlal and Sardar Patel be remembered?
(ii) What was the lesson of this millennium?
(iii) What was Jinnah's whole life work?
(iv) Why was Gandhi above all?
(v) What did India derive from Gandhi?
(vi)What happened to greatness built on hatred and evil?

1.3 Find the antonyms of the following words from the passage: **2×1=2**

(i) loyalty (para 2) (ii) certain (para 3)

Q.2 Read the following poem carefully and answer the questions that follow:

There dwelt a miller, hale and bold
Beside the river Dee;
He worked and sang from morn till night-
No lark more blithe than he;
And this the burden of his song
Forever used to be:
" I envy nobody no, not I –
And nobody envies me!"

"Thou'rt wrong, my friend," said good King Hal,
" As wrong as wrong can be;
For could my heart be light as thine,
I'd gladly change with thee.
And tell me now, what makes thee sing,
With voice so loud and free,
While I am sad, though I am king,
Beside the river Dee?"

The miller smiled and doffed his cap,
"I earn my bread," quoth he;
"I love my wife, I love my friend,
I love my children three;
I own no penny I cannot pay'
I thank the river Dee,
That turns the mill that grinds the corn
That feeds my babes and me."

"Good friend," said Hal, and sighed the while,
" Farewell, and happy be;
But say no more, if thoud'st be true,
That no one envies thee;
Thy mealy cap is worth my crown,
Thy mill my kingdom's fee;
Such men as you thou are England's boast,
O miller of the Dee.

2.1 Choose the most appropriate options from those given below: **3×1=3**

(a) The poet describes:
(i)the story of a piper (ii)the story of a highway man
(iii)the story of a miller (iv)the story of a king

(b) The miller lived:
(i)near the mountain Dee (ii)near the river Dee
(iii)near the meadows (iv)near the sea

(c) He used to sing :
(i)a beautiful song (ii)a sad song (iii)a patriotic song (iv)a ballad

2.2 Answer the following questions very briefly: **6×1=6**

(i) How was the miller?
(ii) What was the burden of his song?
(iii) What did the king want to know from the miller?
(iv) What did the miller reply?
(v) What was the worth of the mealy cap according to the king ?
(vi) Who are England's boast?

2.3 Find words from the passage which means the following: **2×1=2**

i)feel jealous ii)lived

Q.3 Read the following passage carefully and answer the questions that follow:-

Whether work should be placed among the cause of happiness or unhappiness, may perhaps be regarded as a doubtful question. There is certainly much work which is exceedingly irksome, and an excess of work is always very painful. However, work is not most people more painful than idleness. There are in work all grades, from mere relief of tedium up to the profoundest delights, according to the nature of the work and the abilities of the worker. Most of the work that most people have to do is not in itself interesting, but even such work has certain great advantages.

To begin with, it fills a good many hours of the day without the need of deciding what one shall do. Most people, when they are left free to fill their own time according to their own choice are at a loss to think of anything sufficiently pleasant to be worth doing. And whatever they decide on, they are troubled by the feeling that something else would have been more pleasant. To be able to fill leisure intelligently is the last product of civilization and at present very few people have reached this level. Moreover, the exercise of choice is in itself tiresome. Except to people with unusual initiative it is positively agreeable to be told what to do at each hour of the day, provided the orders are not too unpleasant. Most of the idle rich suffer unspeakable boredom as the price of their freedom from drudgery. At times they may find relief by hunting big game in Africa or by flying round the world, but the number of such sensations is limited, especially after youth is past. Accordingly, the more intelligent rich men work nearly as hard as if they were poor.

Work, therefore is desirable, first and foremost as a prevention of boredom, for the boredom that a man feels when he is doing something out of compulsion, though uninteresting work is as boring as having nothing to do. With this advantage of work, another is associated, namely that it makes holidays much more delicious when they come. Provided a man does not have to work so hard as to impair his vigour, he is likely to find far more zest in his free time than an idle man could possibly find.

The second advantage of most paid work and some of unpaid work is that it gives chances of success and opportunities for ambition. In most work, success is measured by income and while our capitalistic society continues, this is inevitable. However, dull work may be, it becomes bearable, if it is a means of building up a reputation. Whatever we do should have a purpose. It should not be just like boiling an egg if having nothing to do. It in no way contributes to the reputation too, rather makes you a dull head. A work should not just be done for the sake of doing. At the end of the task it should create a spark of feeling that yes, we have done something. What's the use of flipping channels on the television where there is no stuff for you to see . it will add to the boredom only. That time should be invested in some meaningful task, say , for instance, in making card for a dear one or spending time with family or friends. It will cheer up their minds and seeing their faces glow, wouldn't you feel happy too! So, it not just work that matters but the purpose of the work matters more. So, from now if you plan a work, plan a purpose too. Continuity of purpose is one of the most essential ingredients of happiness and that comes chiefly through work.

3.1 On the basis of your reading of the above passage makes notes on it, using heading and sub-headings. Use recognizable abbreviations wherever necessary. Also supply an appropriate title to it. **5**

3.2 Write an abstract of the above passage. **3**

SECTION-----B WRITING

Q.4 Design a poster for promoting the need for helping the physically and mentally retarded children, to be displayed in the market areas. **4**

Q.5 As Mr. Rakesh Sharma , HOD Physics , Ramanujan High School Banglore, you had placed and order with Messrs. Jaiprakash Scientific Equipments, Mumbai, for certain devices for the lab. On the receiving the parcel you observed the markings not clear and damaged pieces. Write a letter of complaint seeking immediate replacement. **6**

Q.6 Write an article in 150-200 words on the need for preserving the 'Cultural Heritage and Historical Monuments' in the country. You are Suresh/Shruti. **10**

Q.7 Write a debate on the topic ' Economic Development and Natural Resources Consumption' in 150-200 words . You are Neeraj/Kavita of Modern High School, New Delhi. **10**

SECTION ---C LITERATURE & LONG READING TEXT

Q.8 Read the extract and answer the following questions:- **4×1=4**

Perhaps the Earth can teach us
As when everything seems dead
And later proves to be alive.
Now I'll count up to twelve
And you keep quiet and I will go.

(i) What can we learn from the earth?
(ii) Why does everything seem dead?
(iii) Explain---'and later proves to be alive'?
(iv) How does silence helps to introspect?

Q.9 Answer the following questions in 30-40 words:- **3×4=12**
(i) How did Bama feel when Annan told her why the elder had to carry the packet by its string?
(ii) How was Evans arrested ?
(iii) Did Geoff keep his promise to Sophie? How do you know?
(iv) Gandhi was involved in the conflict of duties. What did he decide in the end and why?

Q.10 'Memories Of Childhood' present autobiographical episode from the lives of the two women from marginalised communities with the main stream. Describe the issue raised in 120-150 words. **6**

Q.11 The story 'Going Places' demonstrates fantasy far from the reality of the real world . Comment. **6**

Q.12 Dr Kemp helped Griffin and Griffin answer all of Dr Kemp's questions. Dr Kemp think that he was breaching Griffin's trust. Attempt a character sketch of Dr Kemp. **6**

Q.13 Why did Griffin fought with landlord, dismantle his apparatus and burn down the house? What advantages and disadvantages did he have? **6**

** ALL THE BEST **

Code. No. 12/Accountancy/**10-12-14/**NLCS/122

Half Yearly Examination 2014 – 15

Time: 3:00 Hrs. **M. M. 80**

PART-A

Q.1 Why is Profit and loss Appropriation Account prepared ? **1**

Q.2 Name the method of calculating Profit on the death of a partner ? **1**

Q.3 State any one difference between Private Debts and Firms Debts? **1**

Q.4 Define reserve capital? **1**

Q.5 Give the formula to calculate the hidden goodwill? **1**

Q.6 Megha and Akshita are partners sharing profit in the ratio of 3:2. Their capitals at the end of the year were ` 48,000 and ` 36000 respectively. During the year ended 31st march ,2014, Their Drawings were Megha ` 8000 and Akshita ` 12000. Profit distributed before charging interest on capital during the year ` 32000. Interest on capital provided @ 5% per annum. Calculate Interest on capital. **3**

Q.7 Pratik limited took over assets of ` 14,00,000 and liabilities of ` 1,20,000 from lakshya ltd. for the purchase consideration of ` 13,20,000. Pratik ltd. Paid the purchase consideration by issuing debenture of ` 100 each at 10% premium. Pass the necessary Journal Entries for the above transactions. **3**

Q.8 Vaibhav ltd issued 20,000 8% debenture of ` 100 each at 10% discount. Pass the necessary Journal Entries for the issue of debenture if (a) Debenture redeemable at par (b) Debenture redeemable at 8% premium

Q.9 A, B and C are partners in a firm sharing profits and losses in the ratio of 4:3:3. Their fixed capital were ` 100000, ` 200000, ` 300000 respectively. For the year 2012 interest on capital was credited to them @ 10% instead of 8% per annum. Pass necessary adjustment entry. **3** **4**

Q.10 Kushagra, Yash and Ritesh are partners in a firm in the ratio of 5:3:2. Yash retired from the firm and his share distributed by Kushagra and Ritesh in ratio of 2:1. They admitted Anand into the partnership firm for 1/5 share of the profits. Anand received his share from Kushagra and Ritesh Equally. Calculate new profit sharing ratio for Kushagra Ritesh and Anand. **4**

Q.11 Nisha ltd. issued 80000 equity share of ` 10 each ` 11at per share. The amount payable `3 on application, ` 4 on allotment, and remaining on first and final call. Application were received for 76000 shares and allotment was made to all. Himank to whom 2,000 shares were allotted failed to pay allotment and call money. Harshit who had applied for 1000 shares Fail to pay the call money. Prepare company's Balance Sheet and Notes to Accounts **4**

Q.12 Nikita and Garima are partners sharing profit and losses in the ratio of 2:1. On April 1st ,2013 Their capital were ` 50000 & ` 40000 respectively. The Partnership deed provided following—

(i) interest on capital allowed @ 5% P.A.
(ii) interest on drawings @ 6% P.A. Their drawings were ` 10000 & ` 8000 respectively.
(iii) Interest on loan to be given to Nikita on the provided by her ` 30000.
(iv) 10% of divisible profit to be transferred to reserve. (after charging all the type of interest)
(v) Garima's profit not less than ` 23000 per annum. (including interest on capital).
(vi) The profit earned during the year ended 31st March 2014, was ` 70260.

Prepare Profit and Loss Appropriation Account. **6**

Q.13 Sahil and Shubham are partners in a firm sharing Profit and losses in the ratio of 2:1. Their firm was dissolved and following adjustment were made after transfer of assets and liabilities in realization account. Pass necessary Journal Entries for following at the time of dissolution. **6**

(a) Sahil agreed to pay off his brothers' loan ` 15000.
(b) Debtors realized ` 12000.
(c) Shubham took over all the investment at ` 18000
(d) Sundry creditors of ` 25000 were paid at 10% discount.
(e) Realisation expenses of ` 2000.
(f) Realisation Profit was ` 5000.

Q.14 Write any three difference between --- **6**

(a) Share and Debenture.
(b) Private company and Public company.

Q.15 Rajat and Ashish are partners in a firm sharing Profits and Losses in the ratio of 7:3. Their Balance Sheet as at 31st march,2014 is as follows: **8**

Liabilities	**Amount (`)**	**Assets**	**Amount (`)**
Creditors	60000	Cash in hand	36000
Reserve	10000	Cash at Bank	90000
Capital Accounts		Debtors	44000
Rajat	100000	Furniture	30000
Ashish	80000	Stock	50000
Total	**250000**	**Total**	**250000**

On 1st April,2014 they admitted Vinay on the following terms:

(i) Goodwill is valued at ` 40000 and Vinay is to bring necessary amount in cash for goodwill and `60000 as capital for ¼ share in profits.
(ii) Stock is to be reduced by 40% and furniture is to be reduced to 40%.
(iii) Capital of the partners shall be proportionate to their Profit sharing ratio taking Vinay's capital as base.

Prepare Revaluation Account, Partners Capital Accounts & Cash Account.

Q.16 Shruti ltd invited applications for 10000 shares of ` 100 each at 60% premium Payable as follows: **8**

On Application ` 60 (including premium ` 10)
On Allotment ` 60 (including premium ` 40)
Balance on Call.
Applications received for 15000 shares were and pro-rata allotment was made to all the applicants.
Mansi to whom 20 share were allotted failed to pay allotment and call money.
Ekta applied for 60 shares failed to pay call money. All the sare of Mansi and Ekta were Forfeited after call and reissued 50 shares (including all the shares of Mansi) @ ` 80 per share as fully paid up.

PART-B

Q.17 How is the earning capacity of a business assessed by financial statement analysis? **1**

Q.18 Write any two difference between Cash Book and Cash Flow Statement. **1**

Q.19 How will you classify loans given by Tata Finance Company? **1**

Q.20 Under what major head and sub-head the following items will appear in the balance sheet of a company as per schedule VI? **3**

(i) Unclaimed Dividends (ii) Provision for Tax (iii) Government and Trust securities

Q.21 Prepare a "Common Size Income Statement" of Surbhi Ltd. with the followings : **4**

particulars	2012(`)	2013 (`)
Revenue from operations	10,00,000	20,00,000
Other Income	2,00,000	3,00,000
Cost of material consumed	6,40,000	14,00,000
Employees benefit expenses (% cost of material consumed)	25%	20%
Other expenses	30,000	80,000
Tax Rate	50%	40%

Q.22 Gross Profit Ratio of Krishna Ltd. was 20%, its credit revenue from operations were ` 72000 and its cash revenue from operations were 10% of the total revenue from operation. Indirect expenses of the company were 25% of gross profit. Calculate Net Profit Ratio of the Company. **4**

Q.23 Prepare a Cash Flow Statement from following Balance Sheets of Kartik Ltd. **6**

Particulars	**Note no.**	**31.03.2014 (`)**	**31.03.2013 (`)**
I. EQUITY AND LIABILITIES			
1. Shareholders Funds			
Share Capital		10,00,000	7,00,000
Reserve and Surplus		2,50,000	1,50,000
3. Current Liabilities			
Short term Provision			
Proposed Dividend		50,000	40,000
Total		**13,00,000**	**8,90,000**
II ASSETS			
1. Non-Current-Assets			
(a) Fixed Assets			
Plant and machinery		8,00,000	5,00,000
2. **Current Assets**			
Inventories		1,00,000	75,000
Cash and cash equivalents		4,00,000	3,15,000
Total		**13,00,000**	**8,90,000**

Additional Information:

1. Share issued of ` 80,000 for purchased of plant and machinery. Other plant and machinery purchased in cash.
2. Depreciation charged on plant and machinery ` 50,000
3. Plant and Machinery costing ` 12,000 ( book value ` 5000) sold for 60% profit on book value.

** ALL THE BEST **