HALF YEARLY EXAMINATION 10/2017

CLASS : XI

SUBJECT : BIOLOGY

Time : 3 hrs. **M.M. : 70**

General Instructions :

(i) ***There are a total of 26 questions and 5 sections in the question paper. All questions are compulsory.***

(ii) ***Section-A contains question number 1 to 5, very short answer type questions of one mark each.***

(iii) ***Section-B contains question number 6 to 10, short answer type-I questions of 2 marks each.***

(iv) ***Section-C contains question number 11 to 22, short answer type-II questions of 3 marks each.***

(v) ***Section-D contains question number 23, value based question of 4 marks.***

(vi) ***Section-E contains question number 24 to 26, long answer type questions of 5 marks each.***

(vii) ***There is no overall choice in the question paper, however, an internal choice is provided in one question of 2 marks, one question of 3 marks and all the three questions of 5 marks. An examinee is to attempt any one of the questions out of the two given in the question paper with the same question number.***

SECTION-A

Q1. Species → (A) → Family → Order → (B) → Phylum. Identify (A) and (B). (1)

Q2. What are the organisms of the phylum Chrysophyta commonly called? (1)

Q3. Name the stage of cell division in which chromosomes cluster at opposite poles. (1)

Q4. A plant cell when kept in a certain solution got plasmolysed. What was the nature of the solution? (1)

Q5. Define critical concentration of elements with reference to plant nutrition. 1)

SECTION-B

Q6. Expand the abbreviation RuBP. Mention its role in photosynthesis. (2)

Q7. How is mycorrhizal association helpful in absorption of water and minerals in plants? (2)

Q8. Mention the functions of cell wall in a plant cell. (2)

Q9. What are polysaccharides? Give two examples. (2)

Q10. Differentiate between diploblastic and triploblastic animals.

OR

Bring out the differences between the sporophyte of gymnosperms and that of bryophytes. (2)

SECTION-C

Q11. How is a key helpful in identification and classification of an organism? (3)

Q12. Describe the three common steps in sexual reproduction of fungi. (3)

Q13. Mention four points of differences between the phyla Porifera and Ctenophora. Give an example of each. (3)

Q14. (a) Name two species of algae from which agar is obtained.

(b) Which class of algae do they belong to?

(c) Mention the economic uses of agar. (3)

Q15. Draw a neat well labelled diagram to show the electron microscopic structure of cilium. (3)

Q16. (a) What is crossing over? Name the enzyme responsible for it.

(b) Which stage of cell division should be selected to study the morphology of chromosomes and why? (3)

Q17. What are nucleosides? Enlist the nucleosides that occur in RNA. (3)

Q18. Schematically represent the nitrogen cycle in nature. (3)

Q19. Name the most exploited phytohormone & why? (3)

Q20. Give a comparison between cyclic and non-cyclic photophosphorylation in plants. (3)

Q21. There are three phases in the growth of a plant. Name them and also mention what each of them corresponds to. (3)

Q22. (a) What role does root pressure play in movement of water in plants?

(b) Represent the relationship between water potential, solute potential and pressure potential.

OR

(a) Differentiate between grana and stroma of chloroplasts.

(b) Leaves of plants show different shades of green. Name the pigments responsible for the colour of leaves. (3)

SECTION-D

Q23. If a legume is uprooted before flowering, some spherical outgrowths, called nodules, are visible on the roots. The nodules are pink in colour.

(a) Name the pigment that imparts pink colour to the nodules. Why is the pigment named so?

(b) State the role of the pigment mentioned above.

(c) What is the value shown by the bacteria present in these nodules? (4)

SECTION-E

Q24. Schematically represent ETS. Explain the respiratory b[illegible]ance sheet.

OR

Where does Calvin Cycle take place in chloroplast? Describe the three phases of Calvin Cycle. (5)

Q25. (a) Describe the primary structure of proteins.

(b) Define 'active site' of an enzyme.

(c) The concentration of a substrate is allowed to increase continuously. Explain the effect of this rise on the rate of enzymatic reaction.

OR

(a) Represent diagrammatically a plant cell in anaphase of mitosis.

(b) How does cytokinesis of plant cell differ from that of animal cell. (5)

Q26. (a) Explain the process of double fertilisation in angiosperms.

(b) Differentiate between C_3 & C_4 plants.

OR

(a) Enumerate any four differences between chordates and non-chordates.

(b) The given structures are associated with certain phyla of the Animal Kingdom. Identify them to their specific phylum.

(i) Choanocytes (ii) Parapodia

(iii) Radula (iv) Comb plates

(c) Name one coelentrate that has both polyps and medusae. (5)

HALF YEARLY EXAMINATION 10/2017

CLASS : XI

SUBJECT : PHYSICS (SET-I)

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

General Instructions :

(i) There are 26 questions in all. All questions are compulsory.

(ii) The paper is divided into 5 parts i.e. Sections A, B, C, D and E.

(iii) Section-A contains 5 questions of one mark each. Section-B contains 5 questions of two marks each. Section-C contains 12 questions of three marks each. Section-D contains a value based question of 4 marks. Section-E contains 3 questions of 5 marks each.

(iv) There is no overall choice, however, an internal choice is given in one question of 2 marks, one question of 3 marks and in all questions of five marks.

(v) You may use the following constants :

$G = 6.6 \times 10^{-11}\ Nm^2\ kg^{-2}$

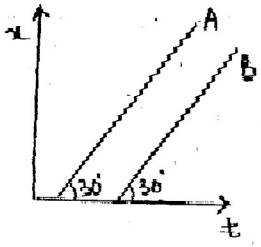
SECTION-A

Q1. The sum and difference of two vectors $\vec{A}$ and $\vec{B}$ are perpendicular to each other. Find the ratio of magnitude of the vectors $\vec{A}$ and $\vec{B}$.

Q2. A body of mass M slides down an inclined plane having friction. Indicate the directions of frictional force and the normal reaction.

Q3. How does the kinetic energy of a body change if its momentum is doubled?

Q4. Find the relative velocity of A w.r.t. B from the following position-time graph.



Q5. In the equation, $y = a \sin(wt - kx)$ where t and x stand for time and displacement respectively; obtain the dimensions of w and k.

SECTION-B

Q6. The moment of inertia of a sphere about a tangent is $\frac{5}{3}MR^2$, where M is mass and R is the radius of the sphere. Find the moment of inertia of the sphere about its diameter.

Q7. Find a unit vector perpendicular to given vectors $\vec{A}$ and $\vec{B}$.

$\vec{A} = \hat{i} - \hat{j} - \hat{k}$

$\vec{B} = 4\hat{i} + 2\hat{j} - \hat{k}$

Q8. A stone of 0.25 kg tied to the end of a string is whirled round in a circle of radius 1.5 m with a speed of 40 revolutions/minute in a horizontal plane. Find the tension in the string.

Q9. A car of mass 1000 kg moving with a speed of 18 km/h on a smooth road collides with a horizontal spring of constant 6.25×10^3 N/m. The car finally comes to rest. Find the compression of the spring.

OR

The displacement of a body of mass 2 kg is related to the time as $x = \frac{1}{3}t^3$. Calculate the work done in the first 2 seconds.

Q10. A player throws a ball upwards with a speed of 30 m/s.

(i) What is the direction of the velocity and acceleration during the upward motion of the ball?

(ii) To what height does the ball rise?

SECTION-C

Q11. (a) Write the number of significant digits in

(i) 0.043 (ii) 0.040 m

(b) The velocity of a freely falling body depends on the acceleration due to gravity (g) and the height (h). Obtain an expression for the velocity in terms of g and h, using dimensions.

Q12. State the principle of conservation of angular momentum.

A child stands at the centre of a turn table with his arms outstretched. The turn table rotates with an angular speed of 40 rpm. The child folds his arms and hence reduces his moment of inertia to 2/3 of its initial value. Find the ratio of (i) final angular speed of the child with the initial angular speed. (ii) final rotational KE of the child to the initial rotational KE.

Q13. A man moving in rain holds his umbrella inclined to the vertical even though the rain drops fall vertically downwards. Why?

Rain falls vertically with a speed of 30 m/s. A man rides a bicycle with a speed of 10 m/s from North to South direction. What is the relative velocity of rain w.r.t. the man? What is the direction, in which the man should hold the umbrella to protect himself from rain?

Q14. A helicopter of mass 1000 kg rises with a vertical acceleration of 15 m/s^2. The passengers in it have a mass of 300 kg. Give the magnitude and direction of -

(i) force on the floor of the helicopter by the passengers.

(ii) force of the helicopter on the surrounding air.

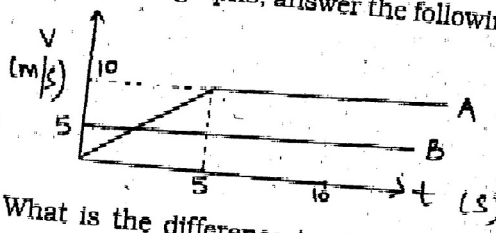
(iii) force on the helicopter due to the surrounding air.

Q15. A body of mass 2 kg initially at rest moves on a horizontal surface by applying a force of 7N. The coefficient of friction between the table and the object is 0.1. Calculate the

(i) work done by applied force in 10s.

(ii) change in KE of the body in 10s.

Q16. Figure shows the velocity-time graphs of two cars A and B. On the basis of graphs, answer the following questions-

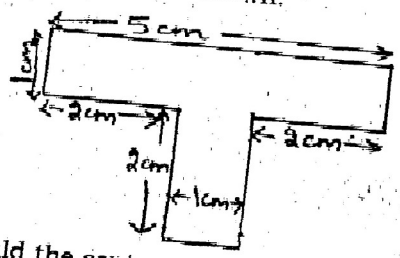


(i) What is the difference in the distance covered by the two cars in 10 sec.?

(ii) Find the relative acceleration of A w.r.t B at t = 5s.

Q17. The length and breadth of a rectangle are measured as $l = 22.5 \pm 0.5$ cm and $b = 15.5 \pm 0.5$ cm. Find the error in measurement of (i) perimeter (ii) area of the rectangle.

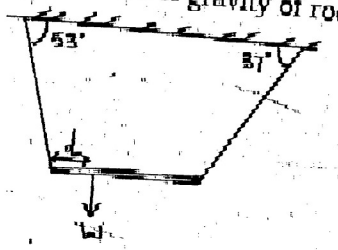
Q18. (a) Find the position of the centre of mass of the uniform T-shaped plate as shown.



(b) Should the centre of mass of a body necessarily lie inside a body? Justify.

OR

A non-uniform rod of weight W is suspended at rest by two strings as shown. The rod is 2m long. Calculate the distance d of the centre of gravity of rod from its left end.



Q19. Derive the 3rd equation of motion. A body covers a distance of 24 m in 3rd second and 12 m in the 5th second. Find the time in which the body will stop.

Q20. A disc of radius 15 cm revolves with a speed of 35 revolution per minute. Two coins are placed 2 cm and 12 cm away from the centre of the disc. The coefficient of friction between the coins and disc is 0.12. Check, with proper mathematical calculations, which of the two coins will revolve with disc? ($g = 10\ m/s^2$)

Q21. Differentiate between elastic and inelastic collision. Give one example of each.

A gas molecule in a container hits a wall with speed 200 m/s and bounces back with same speed. Is the collision elastic or inelastic? Give reason.

Q22. A boy standing on a stationary lift throws a ball upwards with an initial speed of 50 m/s.

(a) How much time does the ball take to return to his hands?

(b) If the lift starts moving upwards with a constant speed of 5 m/s and the boy throws the ball up with a speed of 50 m/s, how long does the ball now take to return to his hands.

(c) Plot the velocity-time graph of the ball.

SECTION-D

Q23. Raman's father was trying to displace a heavy stone with his hands, but he failed to do so. Observing all this, Raman advised his father to use an iron rod. He suggested to put one end of the rod under the heavy stone and hold the other end in his hands. He also suggested to put a small stone under the iron rod near the heavy stone, and then apply force in the downward direction. His father followed the advice and was successful in displacing the heavy stone.

(a) What values are displayed by Raman?

(b) Explain the basic principle of Physics involved in the event that happened in the above passage.

SECTION-E

Q24. (a) Pick out the vector quantities from the following : charge, weight, work, moment of inertia

(b) State triangle law of vector addition and hence obtain an expression for the resultant of two vectors $\vec{A}$ and $\vec{B}$ inclined to each other at an angle θ.

(c) Find the value of x if vector $\vec{A}$ and $\vec{B}$ are perpendicular to each other.

$$\vec{A} = 5\hat{i} + 2\hat{j} - 7\hat{k}, \quad \vec{B} = x\hat{i} - 4\hat{j} + \hat{k}$$

OR

(a) A projectile of mass m is thrown up with initial velocity u at an angle θ with the horizontal. Obtain an expression for its maximum height.

(b) Two projectiles A and B are projected with velocities $\sqrt{2}$ V and V respectively. They have same range. If A is thrown up at angle of 15° with the ground, then find the angle of projection of B. Also find the ratio of the height attained by the two.

(c) What is the angle between velocity and acceleration of a projectile at its highest point?

Q25. What is need for banking of roads? Obtain an expression for the maximum speed with which a vehicle can safely negotiate a curved road banked at an angle θ, if the coefficient of friction between the wheels and the road is μ.

OR

(a) A tennis ball of mass m strikes a wall with speed u, normal to the wall and bounces back along the same path with speed u. What is the change in momentum of the ball?

(b) A person of mass m is standing in a lift. Find his apparent weight when the lift is -

(i) moving upwards with a constant acceleration a.

(ii) moving downwards with a constant velocity v.

(c) Is a uniform circular motion accelerated? If yes, what is the direction of the acceleration?

Q26. (a) State the condition under which a force does negative work.

(b) What is the amount of work done by

(i) a stationary weightlifter in holding a mass of 120 kg on his head?

(ii) gravity on a car moving on a horizontal road with constant velocity?

(c) An external force on an object of mass M changes its velocity u to V. Find the work done by the force in terms of M, u and V.

OR

A small stone of mass M tied to an end of a string of length L is whirled in a vertical circle.

(i) At which point is the tension in the string minimum?

(ii) Derive an expression for the tension in the string at any point.

(iii) Find the minimum velocities at the top most and the lowest point so that the vertical circle can just be completed.

TERM 1 EXAMINATION

INFORMATICS PRACTICES

CLASS- XI

TIME: 3HOURS **MM: 70**

GENERAL INSTRUCTIONS:

- All the questions are compulsory.
- Answer the following questions after carefully reading the text.
- Relational Database – MySQL

Q1. a. What is the purpose of Ports in Computer? [1x10=10]

b. Name any one Super Computer developed in India.

c. 1 KB = _____ Bytes

d. Classify the following as input and output devices.

i. Light pen ii. flatbed plotter

e. Give two examples of storage devices.

f. Which of the following are not hardware :

i. Printer ii. Java iii. Keyboard iv. Assembler

g. Riya is not clear about the difference between the following two statements:

i. SELECT (9-6) * 12;

ii. SELECT (9-6) *12 FROM EMPL;

Help her to understand the difference between these two statements.

h. Give full form of - i) MICR ii) IDE

i. What is CAPTCHA?

j. Write MySQL command to create a new database "Computer".

Q2. a. How does firewall work? [1]

b. What do you mean by BIOS? [2]

c. Differentiate between a virus and a worm. [2]

d. Explain any two input devices? [2]

e. What is CPU? Explain its parts with diagram. [3]

Q3. a. What is the purpose of "order by" clause in MYSQL? [2x5=10]

b. Rohan has created table with 10 rows and 5 columns. After testing he added 20 rows and deleted 4 columns. What is the Degree and Cardinality of the table.

c. Write the difference between Alter and Drop command.

d. How is SYSDATE () different from Now ()?

e. What is the purpose of Primary Key? Explain with an example.

Q4. a. Write the output of the following queries: [1x10=10]

(i) SELECT ROUND(7777.777, 2);

(ii) SELECT DAYOFYEAR ("2015-03-07");

(iii) SELECT 5000+ SQRT (81) ;

(iv) SELECT INSTR ('RED SCHOOL ', 'H') ;

(v) SELECT POWER (2,4) ;

(vi) SELECT LENGTH ("MY BOOK") ;

(vii) SELECT SUBSTR(" INTELLIGENT",3,4);

(viii) SELECT YEAR ("2017-09-17");

(ix) SELECT CURDATE();

(x) SELECT LOWER(CONCAT("HELLO", "WORLD"));

Q5. Differentiate between the following – [2x5=10]

a. RAM and ROM

b. DDL and DML command

c. Application software & System software

d. Address bus and Control bus

e. Compiler and Interpreter.

Q6. a) Write SQL commands for the queries (i) to (x) based on a table OnLineShop. [8]

TABLE : OnLineShop

Code	name	Company	Qty	City	Price
101	Maggi	Kissan	20	Rajkot	70.00
102	Biscuit	Pule	70	New Delhi	100.00
105	Jam	Maggi	60	Ahmedabad	95.00
109	Sauce	Nestle	50	Rajkot	86.00
110	Chocolate	Cadbury	53	New Delhi	209.00
107	Cake	Hide & Seek	20	Chandigarh	380.00

(i) To display names of the items whose name starts with 'C' in ascending order of price.

(ii) To display code, item name and city of the items whose quantity is less than 100.

(iii) To display all items whose price value between 100 to 250.

(iv) To increase the price by 10% of all items.

(v) Add following record to the table.

115, Pizza, Nestle, 40, Rajkot, 75.00

(vi) To add one more column totalprice with numeric(10,2).

(vii) To remove jam items from the table.

(viii) To display chocolate, jam and biscuit.

b) i) Write all relational operators. [1]

ii) What is the use of Ltrim() function? [1]

Q7(a) Write MySQL command for creating a table **"CUSTOMER"** whose structure is given below:

[2]

Field Name	DataType	Size	Constraints
Cust_Number	Integer	4	Primary Key
Name	Varchar	20	
BirthDate	Date		
Amount	Integer	8	Not Null
Address	Varchar	20	
PhoneNo	Varchar	10	

(b) Write command to insert 1 record in table Customer. [1]
(c) Write mysql command to see the structure of the table. [1]
(d) Differentiate between DELETE and DROP Command. [2]
(e) What is a database? Give two examples. [2]
(f) Describe the Like predicate with the help of example. [2]

Term-I-17
Class - XI
SUBJECT: PHYSICAL EDUCATION

TIME: 3 HOURS M.M-70

General Instructions:

(i) All questions are compulsory.
(ii) Answer to question carrying 1 mark should be approximately 20-30 words.
(iii) Answer to question carrying 3 marks should be approximately in 70-100 words.
(iv) Answer to question carrying 5 marks should be approximately in 150-200 words.

Q1. What is the significance of sports? (1)

Q2. What is sports journalism? (1)

Q3. What is meant by life style? (1)

Q4. What do you mean by coordinative abilities? (1)

Q5. What is Olympic motto? (1)

Q6. What do you understand by wellness? (1)

Q7. What is Yama? (1)

Q8. What do you mean by Narcotics? (1)

Q9. Define the term environment? (1)

Q10. What is Doping? (1)

Q11. Write down the name of highest award in the field of sports? (1)

Q12. Explain the concept of adapted physical education? (Any three) (3)

Q13. Discuss the role played by spectators and media in creating a positive sports environment? (3)

Q14. What are the side effects of anabolic steroids? Explain in brief. (3)

Q15. What do you mean by pranayama? Mention the types of pranayama. (3)

Q16. Describe any three physiological benefits of Asanas? (3)

Q17. Elucidate the objectives of Modern Olympic Games. (3)

Q18. What do you mean by prohibited substances? Explain any three. (3)

Q19. Explain any three elements of Yoga? (3)

Q20. Discuss any five essential elements of Positive Sports Environment. (5)

Q21. Explain the career options available in the field of sports. (5)

Q22. What are Ergogenic Aids? Explain any four types of Ergogenic Aids. (5)

Q23. What do you mean by common lifestyle diseases? Discuss the methods of prevention and management of hypertension. (5)

Q24. Write short notes on the following. (5)

(a) In-and-out-of-competition testing for doping
(b) Responsibilities of athletes for doping control

Q25. Explain about Arjuna award in detail. (5)

Q26. Give detailed notes on any two of following. (5)

(a) Olympic oath
(b) Prevention and managements of Back Pain
(c) Paralympic movement

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HALF YEARLY EXAMINATION 10/2017

CLASS : XI

SUBJECT : MATHEMATICS (SET-II)

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

General Instructions :

(i) All questions are compulsory.

(ii) The question paper consists of 29 questions divided into four sections A, B, C and D. Section-A comprises of 4 questions of 1 mark each, Section-B comprises of 8 questions of 2 marks each, Section-C comprises of 11 questions of 4 marks each and Section-D comprises of 6 questions of 6 marks each.

(iii) Use of calculators is not allowed.

SECTION-A

Q1. Find n if ${}^{2n}C_3 : {}^{n}C_3 = 11:1$

Q2. If n(A) = 2 and n(B) = 3, find the number of relations from A to B.

Q3. Solve the inequality $3 - 2x \geq x - 32$, given that $x \in W$.

Q4. If $f(x) = \sqrt{x-1}$ and $g(x) = 3 - 2x$ be two real functions, then find f/g.

SECTION-B

Q5. Two finite sets A and B have m and k elements respectively. If the ratio of number of elements in power set of A to number of elements in power set of B is 64:1 and n(A) + n(B) = 12, find the value of m and k.

Q6. In how many ways can 2 prizes (in Science and Maths) be awarded to 15 students? In how many ways can the first and second prize in History be awarded to 15 students?

Q7. Find the middle term in $\left(\frac{2x^2}{3} - \frac{3}{2x}\right)^{12}$.

Q8. Find the coordinates of focus, the equation of the directrix and the length of latus-rectum of $3y^2 = 8x$.

Q9. Find the derivative of $f(x) = (\sec x - 1)(\sec x + 1)$.

Q10. Find the value of $\cos 15°$.

Q11. If $R = \{(x, y) : x, y \in Z, x^2 + y^2 = 25\}$, then find the domain and the range of R.

Q12. If A, B and C are three sets then draw the venn diagram for $(A - B) \cup (B - A)$.

SECTION-C

Q13. Solve : $\sin x + \sin 3x + \sin 5x = 0$.

Q14. Find the term independent of x in the expansion of

$$\left(\frac{\sqrt{x}}{\sqrt{3}} + \frac{\sqrt{3}}{2x^2}\right)^{10}.$$

Q15. Find the domain and the range of $f(x) = \sqrt{9 - x^2}$

Q16. Solve the following system of inequalities and represent the solution graphically.

$$-2 - \frac{x}{4} \leq \frac{1 + x}{3}, \quad 3 - x < 4(x - 3)$$

Q17. Delhi's car license plate consists of 8 figures – 'D' followed by an alphabet followed by a numeral 1 to 4 followed by letter A, B, C or D followed by four digit non-zero number. How many licence plates can be made without duplicating?

Q18. If $f(x) = \dfrac{x \sin x}{1+\cos x}$, find $f^1(\Pi/2)$.

Q19. The sum of the coefficients of the first three terms of the expansion $\left(x - \dfrac{3}{x^2}\right)^m$, $x \neq 0$, $m \in N$ is 559. Find the value of m.

Q20. Evaluate : $\lim\limits_{x \to \wedge} \dfrac{\sin 3x - 3\sin x}{(\Pi - x)^3}$

Q21. If $U = \{x : x \in N, x \leq 30\}$, $A = \{x : x$ is a prime number and $x < 5\}$, $B = \{x : x$ is perfect square $\leq 10\}$ and $C = \{x : x$ is a perfect cube $\leq 30\}$, the verify the following result $(A \cup B)' = A' \cap B'$.

Q22. Prove that :

$$\frac{\sin 3x + \sin 5x + \sin 7x + \sin 9x}{\cos 3x + \cos 5x + \cos 7x + \cos 9x} = \tan 6x$$

Q23. Find the coordinates of foci, the vertices, the lengths of transverse axis, conjugate axis, latus rectum and eccentricity of $y^2 - 16x^2 = 16$.

SECTION-D

Q24. Find the equation of the circle passing through (1, –2), (5, 4) and (10, 5)

Q25. Using PMI, prove that $10^n + 3.4^{n+2} + 5$ is divisible by 9, for all $n \in N$.

Q26. There are 6 corrupt persons and 3 honest persons in a colony. A committee of 5 is to be selected. What is the number of ways if there are :

(i) 3 corrupt and 2 honest persons in the committee?

(ii) atleast 1 honest person is in the committee?

(iii) atmost 1 honest person is in the committee?

What will happen if committee is formed without an honest person?

Q27. (i) Show that :

$$2\cos\frac{\Pi}{13}.\cos\frac{9\Pi}{13}+\cos\frac{3\Pi}{13}+\cos\frac{5\Pi}{13}=0$$

(ii) If $\sin x = \frac{3}{5}$ and $0 < x < \Pi/2$, find the value of $\sin 2x$ and $\cos 2x$.

Q28. Find the derivatives of the following functions :

(i) $f(x) = \sin^3 x.\cos^3 x$.

(ii) $f(x) = \dfrac{5\sec x - x^4}{x^2\cos\Pi}$

Q29. Solve the following system of inequalities graphically:

$3y - 2x \leq 4,\ x + y \geq 5,\ y < 4,\ x \geq 0$

HALF YEARLY EXAMINATION 10/2017

CLASS : XI

SUBJECT : ENGLISH (SET-II)

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

General Instructions :

(i) This paper is divided into 3 sections : A, B and C. All sections are compulsory.

(ii) Separate instructions are given with each section and question, wherever necessary. Read these instructions very carefully and follow them faithfully.

(iii) Do not exceed the prescribed word limit while answering the questions.

SECTION-A (READING)

Q1. Read the given passage carefully and answer the questions that follow : (12)

(1) Spiritually seldom dribbled with soccer, until the 'Hand of God' came into play during the quarter final match of the 1986 World Cup football between Argentina and England. Diego Maradona claimed that divine intervention had helped him score the controversial goal.

(2) A short film made in 2003 by Mike Walker - Does God play football? - explored the relationship between God and Tommy, a seven year old football fan. Tommy's only desire is to have a father of his own to play football with. In the absence of a real Dad, he adopts God as his father with the help of a local priest - very like how the human soul longs for communion with the Universal spirit.

(3) An individual remains unfit for spiritual journey without the requisite physical and mental strength. Vivekananda said : "You will be nearer to Heaven through football than through the study of Bhagavad Gita". A player's patience and perseverance is tested on the football field at every moment; the ability to wringgle out of tough situations and hold on to one's nerves in tight situations. A seeker, too, has to undergo such trials during the inward game of realization.

(4) Look at football as a metaphor for life. The ball is the individual's ego. Team members are family and friends; trust in teammates is the foundation of a good relationship and helps the player win the match of happiness. The opposition players are obstacles like anger, pride, hatred, that must be overcome to reach the goalpost. The goalpost is the universal consciousness to which a person must ultimately submit the ego, to achieve true bliss. The coach is the guru who teaches the way and the player learns from his mistakes on the field. The referee is the law of karma that reinforces the correct rules for playing. The audience is society that reacts to performance on the field. As in life, a game that has started must end. As long as a person is in the game, one gets the illusion of limited time and space. Only when the game gets over, does one realize the limitlessness of time and space.

(5) Every player is assigned a particular role on the field according to his skills - forward, midfielder, defender, or goalkeeper. Similarly, in life we have designated roles. Our capabilities and choices determine the contribution we make to the world through our work. Like a player who can manoeuvre the ball on the field, a person has the free will to choose his thoughts, words and

actions. Football is meditation 'on the run'. A player is always 'in the moment' for the entire duration of the play. The player has no thought of past and no use for future, as all the scoring opportunities are created in the 'now'.

(6) Football teaches one to be a good spectator, one who watches the game with passionate detachment. For him, an exciting football match is only that - a game Wins or losses, even for his favourite team, do not bother him. A good spectator is like a joyful observer of life; he witnesses events around him as they come and go, and remains detached as he is always centered in truth.

(7) Today, football is a faith binding a legion of followers across the world. People, irrespective of their religions, nationalities and cultures, are tuning in simltaneously to watch live football. If this is not universal brotherhood, what else is?

(P. Venkatesh) (*Source : http://spiritually.indiatimes.com*)

I. Choose the most appropriate option to complete the given sentences : (4x1=4)

(a) When Diego Maradona played during 1986 World Cup football between Argentina and England, he claimed that _____,

(i) he was skillful enought to score a goal.

(ii) luck favoured him.

(iii) the divine intervention had helped him.

(iv) the opposite team was weak.

(b) For spiritual journey, one needs _____.

(i) physical and mental strength (ii) to do meditation regularly

(iii) to visit a temple every day (iv) to follow a guru

(c) The opposition players in the game of football represent _____ in real life.

(i) an opportunity to showcase your talent

(ii) obstacles like anger, pride, hatred

(iii) the society that judges one's performance

(iv) an opportunity to learn team spirit.

(d) One realizes the limitlessness of time and space _____.

(i) while playing the game of football.

(ii) while scoring a goal

(iii) when one wins the match

(iv) when the game gets over

II. Answer the following questions briefly : (6x1=6)

(e) What is the theme of the short movie 'Does God play football'?

(f) According to Vivekananda, how can we get near to the Almighty by playing football?

(g) Whom does the football coach represent in real life?

(h) How is football meditation 'on the run'?

(i) What are the similarities between playing the football game and playing the designated role in life?

(j) How does football teach one to be a good spectator?

III. Find words from the passage which mean the same as : (2x1=2)

(k) a figment of imagination (para 4)

(l) a planned and controlled movement or series of moves (para 5)

Q2. Read the passage given below and answer the questions that follow : (8)

(1) Nobody has the faintest idea when the first marbles rolled across the earth's surface, but small stones, deliberately chipped and rounded, have been unearthed at Stone Age excavations on three continents. Today, marbles from ancient Rome and Greece occupy places of honour of places like the British Museum and New York's Metropolitan Museum of Art. Shakespeare mentions "Cherry Pit", a game of marbles, marbles appear in a picter Bruegel painting and are referred to by the Roman poet, Ovid.

(2) Marbles are small, hard balls that are used in a variety of children's games and are to named after the 18th century practice of making them from mrable chips. Marble games date back to antiquity and ancient games were played with sea-rounded pebbles, nuts and seeds of some fruits. The young Octavian (later the emperor Augustus), like other Roman children, played games with nut marbles, and engraved marbles have been dug up from the earthen mounds built by some early North American Red Indian ribes. Early settlers in the USA found the Red Indians playing marble games with what archaeologists now refer to as "game stones".

(3) The object of marble games is to roll; throw, drop, or knuckle marbles against an opponent's marbles, often to knock them out of a prescribed area and so win them.

(4) Year after year, nearly 200 million marbles are turned out by the mixing, shaping and rolling machines of marble making factories. The demand for marbles is constantly increasing. In addition to children's games, like knuckling, marbles are also used in numerous other games. Chinese Checkers, a perennially popular game, requires 60 marbles for each game, 10 each for six other different colours.

(5) In the 20th century, marbles have been made of a variety of materials : baked clay, glass, steel, plastic, onyx, agate. During World War II, engineers perfected the little glass balls to such a degree that they could be substituted for steel bearings. Tons of these glass balls go to the lithographers and engravers, to be used in smothing the surface of copper printing plates. Special marbles are made for this purpose, to withstand the punishment of being rolled back and forth over the metal surfaces.

(6) Many highway signs are made of marbles. Each glass ball has an individual reflector behind it, so that headlights at night will spell out safety warnings. In the oil fields, refineries use acid proof marbles are filters and condensers. The glass balls are injected into old oil wells to prepare them for possible further use. Consequently, millions of dollars worth of oil can now be recovered.

(7) Some fish hatcheries place marbles on the bottom of pools, claiming better results during the spawning season. Paper mills now use glass balls in their manufacturing units. Only recently has it been found out that marbles are highly useful in the spinning of glass thread. And last, but not the least, when life comes to an end and the mortal remains are placed in a modern mausoleum, a dozen or so marbles are thrown by the mourners onto the tomb, so that the coffin will roll easily into place.

(a) On the basis of your understanding of the above passage, make notes on it, using headings and sub-headings and abbreviations (minimum four) wherever necessary. Also suggest a suitable title. (5)

(b) Write a summary of the passage in not more than 80 words usign the notes made. (3)

SECTION-B (ADVANCED WRITING SKILLS)

Q3. You are the manager of Dance House, Delhi. You are planning to organise a talent hunt competition for the budding dancers. Design a poster announcing the competition to be held in Delhi in the month of November.

OR

You are Amit, a resident of 26, Block-A, Model Town. You are planning to let out your three bedroom flat in Dwarka. Draft an advertisement in about 50 words to be published in 'Hindustan Times' under the classified columns. (4)

Q4. You are Navin/Namitha of Bangalore. Of late, you have noticed that crime against the elderly people is on the rise. Write a letter to the editor of the Deccan Herald drawign the attention of the concerned authorities and giving your suggestions.

OR

Recently, India's women's cricket team brought laurels to the country. Write a letter to the Editor of a national daily highlighting the need to provide better training opportunities to women players across the country. You are Sanjeev, 16/13, Kamla Nagar, Delhi. (6)

Q5. You are Chetna of DAV Public School, Vasant Vihar. Your school has recently built a well-planned auditorium to hold academic and cultural programmes. The editor of your school magazine has asked you to write a factual description for the magazine. Write the description in about 150-200 words.

OR

You are Preeti/Pranav, Head Girl/Boy of your school. Write a speech to be delivered at the Career Counselling Session for students of class XI of your school advising them to think seriously about their goals and aptitudes before choosing a stream of study. (150-200 words). (10)

SECTION-C (LITERATURE TEXT BOOKS AND LONG READING TEXT)

Q6. Read the given extracts and answer the questions that follow :

And forever, by day and night, I give back life
to my own origin,

And make pure and beautify it;
(for song, issuing from its birth place, after fulfilment, wandering
Reck'd or unreck'd, duly with love returns)

(a) What does the rain do day and night? (1)

(b) How does it give back life to its own origin? (1)

(c) How does the rain purify and beautify the earth? (1)

(d) Why are the last lines put within brackets? (1)

OR

Now she's been dead nearly as many years
As that girl lived And of this circumstance
There is nothing to say at all
Its silence silences.

(a) Who is 'she' in the above lines? For how many years 'she' has been dead? (1)

(b) What does 'this circumstance' refer to? (1)

(c) Explain 'Its silence silences'. (2)

Q7. Answer any four of the following questions in about 30-40 words each : (4x3=12)

(a) How did the narrator get back to the ship after been having thrown into the sea?

(b) Each photograph is a memory. Justify the statement in the light of the poem 'A Photograph'.

(c) Mourad showed a special concern for animals. Justify.

(d) What was the narrator's mother's opinion about Mrs. Dorling?

(e) What made the Shastri unhappy in the lesson 'Ranga's Marraige'?

(f) What do Doris and Cyril feel about Mrs. Pearson's changed behaviour?

Q8. Answer any one of the given question in about 120-150 words : (6)

How did the beautiful bond of love and friendship between the narrator and his grandmother change with the pasage of time?

OR

Why were the crewmembers desperate to look for an island? How did they manage?

Q9. Answer any one of the given question in 120-150 words : (6)

Describe the narrator's second visit to Mrs. Dorling's house.

OR

Describe the narrator's ploy to get Ranga married.

Q10. Answer the given question in about 120-150 words : (6)

What preparations did the Canterville ghost make for August 17 performance? What was his plan of action?

Q11. Answer the given question in 120-150 words : (6)

Write the character sketch of the twins.

HALF YEARLY EXAMINATION 10/2017

CLASS : XI

SUBJECT : COMPUTER SCIENCE (SET-II)

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

General Instructions :

(i) All the questions are compulsory.

(ii) Programming language: C++

Q1. (a) Distinguish between input unit and output unit. (2)

(b) Define and distinguish between data and information with an example. (2)

(c) What is the function of ALU? (1)

(d) What is Proprietary Software? Explain with an example. (2)

(e) Define Application Software? Give example. (2)

(f) Define Multiprocessing OS. (1)

Q2. (a) What is Operating System? What are its functions? (2)

(b) What are keywords? Can keywords be used as identifiers? (2)

(c) What are String_literals in C++? What is the difference between character constants and string literals in terms of size? (2)

(d) Find the size of the following constant. (2)

(i) 373.33 (ii) '\n'

(iii) '@' (iv) "@"

(e) Write a program to input a number n. If the number n is odd and positve, print its cube otherwise print n^5. (2)

Q3. (a) What do you mean by Fundamental Data Types? How many Fundamental Data Types do C++ provides? Give all names. (2)

(b) Write a program to input any number and check whether given number is palindrome or not. (3)

(c) What are integer constants? How many ways are there in C++ to represent an integer constant? (2)

(d) With the help of an example illustrate the difference between entry controlled and exit controlled loops (2)

(e) What will be the result (true or false) of following two expressions if i = 10 initially? (1)

(i) i++<=10 (ii) ++i<=10

Q4. (a) What is type conversion? What is meant by type casting? (2)

(b) Construct logical expressions to represent the following conditions : (2)

(i) Height is greater than or equal to 100 but less than 150.

(ii) Rank is 'B' and experience is more than 25 years.

(c) What are relational operators. (1)

(d) Write a C++ program to check whether square root of the number is prime or not. (3)

(e) State why are following expressions invalid? Write the correct statements : (2)

(i) arm=5100||val<35 (ii) age>70 && <90

Q5. (a) Differentiate between syntax errors and semantic errors. (2)

(b) Rewrite the following if-else segment using switch-case statement. (2)

```
if (ch == 'P')
    cout<<"Platinum";
if (ch == 'G')
    cout<<"Gold";
if (ch == 'S')
```

(2)

```
        cout<<"Silver";
    else
        cout<<"Normal";
```

(c) What is an iteration statement? Which iteration Statements do C++ provides. (2)

(d) Write a statement that uses a conditional operator to set variable 'grant' to 60 if 'speed' is more than 98, otherwise to 10. (2)

(e) Convert the following : (2)

(i) $(7654)_{10} = (\quad)_{16}$

(ii) $(1110011.11)_2 = (\quad)_{16}$

Q6. (a) Write a "while loop" that display even numbers from 2 to 100. (2)

(b) Rewrite the following program after removing the syntactical error(s), if any, underline each correction: (2)

```
#include<iostream.h>
void main( )
{
  const max=0;
  int a, b;
  cin>>a, b;
  if(a>b) max=a;
  for (x=0; x<max, x++) cout<<x;
}
```

(c) Find the output of the following program :

(i)
```
for (r=0; r<2; r++)
{
    int sum=0;
    for (c=2; c<=5; c++)
        sum+=c;
    cout<<"sum="<<sum+r<<endl;
}
```
(2)

(ii) If (!0) (2)

```
cout<<"Fourth Time Tricky\n";
cout<<"No?";
If(0)
cout<<"Fourth Tricky\n";
cout<<"Am I Right";
```

(d) How many times the following loop will execute? Write the value of 's' also. (2)

```
for (int s=0, i=3, i<=15; i+=3)
s+=i;
```

Q7. (a) Write a program to input any number and to print all multiplication table up to given number. (3)

(b) Write a program to find the sum of the following series.

(i) $1^2 + 3^2 + 5^2 + ... + n^2$ (3)

(ii) $x^2/2 + x^4/4 + x^6/6 + ... + x^{2n}/2n$ (3)

(c) Find two's complement of (-88). (use one byte memory). (1)

HALF YEARLY EXAMINATION 10/2017

CLASS : XI

SUBJECT : CHEMISTRY (SET-I)

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

General Instructions :

i) All questions are compulsory.

ii) Question numbers 1 to 5 are very short answer type questions carrying 1 mark each.

iii) Question numbers 6 to 10 are short answer type questions carrying 2 marks each.

iv) Question numbers 11 to 22 are also short answer type questions carrying 3 marks each.

v) Question number 23 is a value based question carrying 4 marks.

vi) Question numbers 24 to 26 are long answer type questions carrying 5 marks each.

vii) Use log tables, if necessary. Use of calculators is not allowed.

Q1. How many significant figures are present in 0.0035?

Q2. Calculate the number of electrons present in 17g of NH_3.

Q3. Assign the position of the element having outer electronic configuration ns^2np^4 for n = 4, in the periodic table.

Q4. Why are aerated water bottles kept under water during summer?

Q5. Why does NH_4NO_3 dissolve in water spontaneously even when this process is endothermic?

Q6. Addition of first electron to a neutral atom is an exothermic process while that of second electron is an endothermic process. Comment on this statement.

Q7. A sample of $NaNO_3$ weighing 0.38g is placed in a 250 ml volumetric flask. The flask is then filled with water to the

mark on the neck. What is the molarity of the solution? (Given Atomic mass of Na = 23g, N = 14g & O = 16g)

Q8. K_p for the following equilibrium reaction :

N_2O_4 (g) $\rightleftharpoons$ $2NO_2$ (g) is 0.157 atm at 27°C and 1 atm pressure. Calculate K_C for the reaction.

Q9. Draw the Born-Haber cycle for the calculation of lattice enthalpy of NaCl.

OR

(a) What will happen to internal energy if work is done by the system?

(b) Is there any enthalpy change in a cyclic process?

Q10. In what ways Heisenberg's uncertainty principle contradicts the concept of stationary orbit for an electron as suggested by Bohr?

Q11. An organic substance containing carbon, hydrogen and oxygen gave the following percentage composition :

C = 40.687%, H = 5.085% and O = 54.228%.

The vapour density of the compound is 59. Calculate the molecular formula of the compound.

Q12. Give reason for the following :

(i) Ionization enthalpy of nitrogen is more than that of oxygen.

(ii) Halogens have very high negative electron gain enthalpies.

(iii) Mg^{2+} ion is smaller than O^{2-} ion although both have the same electronic configuration.

Q13. A sample of HI (g) is placed in a flask at a pressure of 0.2 atm. At equilibrium partial pressure of HI (g) is 0.04 atm. What is the value of K_p for the given equilibrium reaction:

$2HI\ (g) \rightleftharpoons H_2\ (g) + I_2\ (g)$

OR

A mixture of H_2, N_2 and NH_3 with molar concentration 5.0×10^{-3} mol L^{-1}, 4.0×10^{-3} mol L^{-1} and 2.0×10^{-3} mol L^{-1} respectively was prepared and heated to 500K. The value of K_C for the reaction : $N_2(g) + 3H_2(g) \rightleftharpoons 2NH_3(g)$ at this temperature is 60. Predict, whether the reaction is at equilibrium or not? If not, in which direction does the reaction tend to proceed to reach equilibrium?

Q14. What do you understand by the term hybridisation? Using the concept, explain the formation of C_2H_4.

Q15. What transition in the hydrogen spectrum would have the same wavelength as the Balmer transition n = 4 to n = 2 of He^+ spectrum?

Q16. The reaction $2C + O_2 \rightarrow 2\,CO$ is carried out by taking 24g of carbon and 96g of O_2. Find out :

(a) Which reactant is left in excess?

(b) How much of it is left?

(c) How many grams of the other reactant should be taken so that nothing is left at the end of the reaction?

Q17. A gaseous mixture containing 50g of nitrogen (N_2) and 10g of oxygen (O_2) were enclosed in a vessel of 10L capacity at 27°C. Calculate the partial pressure of each gas and the total pressure of gaseous mixure. (Given R = 0.0821L atm K^{-1} mol^{-1})

Q18. (a) Critical temperature of carbon dioxide and water are 31.1°C and 81-9°C respectively. Which of these has stronger intermolecular forces and why?

(b) Write Vander Waal's equation for n moles of a gas.

(c) Why are falling liquid drops spherical?

Q19. Write the electronic configuration of the elements with atomic members 9, 11, 21 and 36. Predict the following from these configurations :

(i) Which of them has the lowest ionization enthalpy?

(ii) Which of these has the highest negative electron gain enthalpy?

(iii) Which of these has positive electron gain enthalpy?

Q20. For the following equilibrium reaction :

$2\ NO(g) \rightleftharpoons N_2\ (g) + O_2\ (g)$, ΔH = –ve

$K_C = 2.5 \times 10^{20}$ at 298 K. How will the equilibrium be affected if :

(i) Concentration of NO is increased.

(ii) Temperature is decreased to 273K.

(iii) Pressure is reduced?

Q21. (a) Draw the molecular orbital energy level diagram for O_2 molecule.

(b) Calculate the bond order of O_2^+ and indicate its magnetic property.

Q22. Calculate the enthalpy of formation of methane from the following data :

$C\ (s) + O_2 \rightarrow CO_2\ (g)$ $\quad \Delta_r H° = -393.5$ KJ

$2H_2\ (g) + O_2\ (g) \rightarrow 2H_2O\ (l)$ $\quad \Delta_r H° = -571.8$ KJ

$CH_4\ (g) + 2O_2\ (g) \rightarrow CO_2\ (g) + 2H_2O\ (l)$ $\quad \Delta_r H° = -890.3$ KJ

Q23. One day Ramya's mother was cutting onions. The vapours of onion were producing a lot of tears in her mother's eyes. She was wiping her eyes again and again and was feeling very uncomfortable. Ramya at once thought of an idea. She asked her mother to place these onions into refrigerator for some time and then cut these. Her mother placed the onions into the freezer for some time. When she cut these onions after some time, she had very less tears in her eyes and felt comfortable. On the basis of above passage, answer the following questions :

(i) Why did Ramya asked her mother to keep onions in the refrigerator for some time?

(ii) What are the values associated with the above suggestion for Ramya?

Q24. When light of wavelength 470 nm falls on the surface of potassium metal, electrons are emitted with a velocity of 6.4×10^4 ms^{-1}. What is the minimum energy required to remove an electron from potassium metal? (Given $m_e = 9.1 \times 10^{-31}$ kg, $h = 6.63 \times 10^{-34}$ Js)

(b) Which of the following are isoelectronic species :

Na^+ , K^+ , Li^+ , Ca^{2+} , S^{2-} , Ar

(c) What is the designation of an orbital having n = 4 and $l = 2$?

OR

(a) Calculate the wavelength associated with an electron (mass = 9.1×10^{-31} kg) having kinetic energy 3.0×10^{-25} J.

(b) Which of the following orbitals has the lowest energy?

4d , 4f , 5s , 5p

(c) Write the values of n, l and m_l for $2p_y$ orbital.

Q25. (a) For the following reaction :

$CH_3 CH_2 OH$ (l) + $3O_2$ (g) $\rightarrow$ $2CO_2$ (g) + $3H_2O$ (l) the enthalpy change at 298K and 1 atm pressure is −1363 KJ. Calculate the internal energy change for the reaction. (Given R = 8.314 JK^{-1} mol^{-1}).

(b) Define the following :

(i) Extensive properties

(ii) Molar heat capacity

(c) Explain the state of a reaction when $\Delta G = 0$.

OR

(a) Calculate the standard free energy change (ΔG°) of the following reaction at 298K and predict the feasibility of the reaction at this temperature :

$C_6H_{12}O_6 + 6O_2 \rightarrow 6\ CO_2 + 6\ H_2O$

Given $\Delta H^\circ = -2820$ KJ mol^{-1}, $\Delta S^\circ = 210\ JK^{-1}\ mol^{-1}$.

(b) What is the change in internal energy during the isothermal expansion of an ideal gas?

(c) What do you mean by specific heat capacity?

Q26. (a) BeF_2 and H_2O are both triatomic molecules but have different shapes. Explain.

(b) Explain why the dipole moment of hydrogen halides decreases from HF to HI.

(c) Benzene ring has alternate single and double bonds, yet all the C – C bonds are of equal lengths.

(d) Give one limitation of the octet rule.

OR

(a) Is it necessary for the non-polar molecules to always have non-polar bonds? Justify your answer.

(b) Draw the shapes of the following molecules using VSEPR model :

(i) NF_3 (ii) PCl_5

(c) Explain, why glucose is soluble in water though it is a covalent compound?

HALY YEARLY EXAMINATION 10/2017

CLASS : XI

SUBJECT : ECONOMICS [SET-II]

Time : 3 hrs. **M.M. : 100**

General Instructions :

(i) All questions in both the sections are compulsory.

(ii) Marks for questions are indicated against each.

(iii) Question numbers 1-5 and 16-20 very short answer questions carrying 1 mark each. They are required to be answered in one sentence.

(iv) Question numbers 6-8 and 21-23 are short answer questions carrying 3 marks each. Answer to them should not normally exceed 60 words each.

(v) Question numbers 9-11 and 24-26 are also short answer questions carrying 4 marks each. Answer to them should not normally exceed 70 words each.

(vi) Question numbers 12-15 and 27-30 are long answer questions carrying 6 marks each. Answer to them should not normally exceed 100 words each.

(vii) Answer should be brief and to the point and the above word limits should be adhered to as far as possible.

SECTION-A (Statistics for Economics)

Q1. Stratified sampling is preferred where : (choose the correct alternative) (1)

(a) population is homogeneous

(b) population is heterogeneous

(c) small samples are required

(d) random sampling is not possible

Q2. Sum of the square of the deviation of the items about arithmetic mean is : (choose the correct alternative) (1)

(a) Maximum (b) Minimum

(c) Zero (d) One

Q3. Which average would be the most suitable to find average production in a factory per shift? (choose the correct alternative) (1)

(a) Mean (b) Median

(c) Mode (d) Weighted mean

Q4. Give one point of difference between sampling error and non-sampling error. (1)

Q5. What is geographical classification? (1)

Q6. 'Statistics, although useful in many ways is not devoid of limitations.' Explain any three limitations of statistics in this regard. (3)

OR

Explain three characteristics of statistics in plural sense, using suitable examples.

Q7. Find median from the following data : (3)

Class Interval	1-10	11-20	21-30	31-40	41-50
Frequency	3	12	20	10	5

Q8. In Town A, total females comprises of 40% of the population, out of this 10% were non-vegetarians. Total vegetarians were 50% of the population.

In Town B, total females comprises of 50% of the population, out of this 20% were non-vegetarian. Total non-vegetarians were 60% of the population.

Tabulate the above data. (3)

Q9. Represent the following data, using a percentage bar diagram : (4)

Items of Expenditure	Expenditure (in ₹)	
	Family A	Family B
Food	200	200
Clothing	100	250
House Rent	80	100
Fuel and Lighting	40	150
Miscellaneous	80	300

OR

Draw a pie diagram to represent the following data showing marks obtained by a student in an examination.

Subjects	Business Studies	Accountancy	Statistics	Economics	English
Marks	80	100	50	40	30

Q10. Calculate arithmetic mean from the following data (Take assumed mean as 35) (4)

Mid point	5	15	25	35	45	55
Frequency	5	10	25	30	20	10

Q11. Locate the value of median graphically : (4)

Marks	0-10	10-20	20-30	30-40	40-50	50-60
No. of students	3	9	18	30	18	12

Q12. (a) Distinguish between census method and sampling method of collection of data.

(b) What is telephonic interview method? Give its merits and limitations. (3+3=6)

OR

(a) Explain multi-stage sampling with the help of a suitable example.

(b) What is a questionnaire? List any two essentials of a good questionnaire.

Q13. Calcualate mode by grouping method from the following data : (6)

Marks	0-10	10-20	20-30	30-40	40-50
No. of students	10	20	30	20	10

Q14. (a) The following table gives the distribution of monthly salary of 458 employees. However, the frequencies of the classes 30-40 and 50-60 are missing. If the median of the distribution is 47, find the missing frequencies :

Marks	10-20	20-30	30-40	40-50	50-60	60-70	70-80
No. of students	24	60	x	130	y	50	36

(b) State any two merits of median. (4+2=6)

Q15. (a) The average height of 40 students was calculated as 155 cm. It was later discovered that the height of two students was wrongly noted as 150 cm and 170 cm instead of 180 cm and 160 cm respectively. Calculate the correct average height.

(b) Calculate weighted mean for the given data. The weights assigned to Mathematics, Accountancy, English and Economics were 4, 3, 2 and 1 respectively.

Subjects	Mathematics	Accounting	English	Economics
Marks	45	50	70	80

(3+3=6)

SECTION-B (Indian Economic Development)

Q16. Selling off a part of the equity of a public sector unit to the private sector is known as : (Choose the correct alternative) (1)

(a) Liberalisation (b) Disinvestment

(c) Globalisation (d) Devaluation

Q17. Which of the following is not true for smal scale industries (SSI)? (Choose the correct alternative) (1)

(a) SSI is labour intensive and therefore, employment oriented.

(b) SSI needs less investment and is therefore, equity oriented.

(c) SSI is capital intensive and therefore, increases productivity.

(d) SSI shows locational flexibility and is therefore, equality oriented.

Q18. One of the following statements about Indian economy is not true. Identify the false statement : (Choose the correct alternative) (1)

(a) India's foreign trade throughout the colonial period was marked by a large export surplus.

(b) India had a sound industrial base under the Britishers.

(c) Britishers developed railways in India for their own benefit.

(d) Indian agriculture was stagnant before independence.

Q19. State any two benefits of Green Revolution. (1)

Q20. Why India is a favourite outsourcing destination? Give two reasons. (1)

Q21. Differentiate between human capital and physical capital. (3)

Q22. Briefly discuss the policy of industrial licensing during 1950-90. (3)

Q23. Give a quantitative appraisal of India's demographic profile during the colonial period. (3)

OR

What was the composition and direction of trade at the time of independence?

Q24. 'The traditional handicraft industries were ruined under the British rule'. Do you agree with this view? Give reasons. (4)

Q25. Discuss the following as sources of human capital formation : (4)

(a) Investment in education

(b) Investment in health

OR

Why is government intervention required in human capital formation?

Q26. Why were economic reforms introduced in India in 1991? (4)

Q27. (a) Discuss the problems faced by farmers in marketing of their agricultural produce.

(b) What is organic farming? How does it promote sustainable development? (3+3=6)

OR

(a) How is agricultural diversification helpful to farmers? Explain.

(b) Explain the steps taken by the government in developing rural markets.

Q28. (a) Explain various land reforms introduced in agricultural sector after independence.

(b) What was the foreign trade policy of India during 1950-1990? (3+3=6)

Q29. (a) Discuss the financial sector reforms introduced under the New Economic Policy, 1991.

(b) Explain the external sector reforms introduced in India after 1991. (3+3=6)

Q30. (a) Explain 'growth oriented approach' adopted by the government for alleviation of poverty.

(b) Briefly explain three causes of poverty in India. (3+3=6)