

25. Several TV buyers are deceived by the advertisements of the manufactures.
 (1) meritorious (2) meritorious
 (3) meticulous (4) soddy
26. She spent three hoursover the manuscript.
 (1) pouring (2) poring
 (3) browsing (4) pondering
27. My father me severely when he caught me stealing grandma's pickles.
 (1) rebuked (2) patted
 (3) encouraged (4) advised
28. A great literary or artistic work is known as a
 (1) par excellence (2) pot-pourri
 (3) magnum opus (4) peccadillo
29. The waves of tsumami were higher and higher.
 (1) breaking (2) moving
 (3) surging (4) spreading
- Q. 30-35 Select the meaning of the given phrases/ idioms :**
30. have a go
 (1) ride for happiness (2) take a walk
 (3) go no leave (4) make an attempt
31. turn up
 (1) make appearance / attend
 (2) make a fresh start
 (3) a favour
 (4) refuse
32. in the offing
 (1) at the end (2) about to start
 (3) on decline (4) in the air
33. Take a back seat
 (1) hold back information
 (2) to say something to calm the situation down
 (3) not do anything
 (4) be confused

34. a small fry
 (1) peon
 (2) a small creature
 (3) humorous
 (4) a person of thing of little importance

35. gift of the gab
 (1) good at talking
 (2) good at walking
 (3) good at riding
 (4) good at everything

Q. 36-40 In the following passage there are some numbered blanks. Fill in the blanks by selecting the most appropriate word for each blank from the given options. :

Operation Flood was36..... with the primary objective of linking rural milk producers with urban milk consumers, be37.....viable producer cooperatives in the milk shades, and thus ...38..... milk producers to earn higher income from milk. The programme39..... some 72 lakh members in nearly 61000 village societies over diverse ecologies in 174 milk shades. The cooperatives procure an average of 90 lakh liters of milk a day to40..... the ever growing urban demand for fresh milk from the country.

36. (1) visualized (2) created
 (3) launched (4) devoted
37. (1) exposing (2) creating
 (3) generating (4) providing
38. (1) offering (2) activating
 (3) enabling (4) justifying
39. (1) Covers (2) rotates
 (3) motivations (4) follows
40. (1) control (2) satisfy
 (3) attend (4) meet

7. The intention of the writer is to
- (1) reject the popular meaning of the term 'technique'.
 - (2) widen the scope of the term 'technique'.
 - (3) uphold the superiority of traditional technique.
 - (4) mock at the modern craze for gadgets.
8. The italicized phrase the seeing eye in the first sentence implies
- (1) seeing with a clear eyesight
 - (2) application of some special device for the analysis of things seen
 - (3) perception caused by understanding
 - (4) seeing the particular characteristics of things
9. 'Skill' in this passage means
- (1) the ability to do things well by hand
 - (2) the ability that has been tested by experience which ensures success
 - (3) any of our powers
 - (4) the ability to master techniques
10. The most important aspect of technique, as defined in the passage, is the use of skill
- (1) for observation and analysis
 - (2) for handling tools and machines
 - (3) for an understanding of the functions of tools and machines
 - (4) for a definite purpose

Q. 11-15 Read the following passage and answer the questions given after it :

When Elizabeth Garrett was 23, she met an American, Elizabeth Blackwell, who after a long struggle, had become the first woman doctor in the world. She suggested that Elizabeth Garrett should do the same in England. To be a doctor was a new idea to Elizabeth, and rather a frightening idea, but it was exciting.

At first her parents were shocked and unhappy that Elizabeth should try to follow so unlady like a profession, but at last they agree to help her. Then she found that no doctor or hospital would accept a woman student. They told her to be a nurse like Florence Nightingale and to give up the ridiculous idea of being a doctor,

which was a man's job. At last the Middlesex Hospital agreed to let her come on trial as a nurse, to see if she could stand hospital life. Hospitals then were very different from what they are now. Great doctors like the Frenchman Pasteur and the Englishman Lister had not yet discovered how to make operations safe from infection, and the terrible sights and smells in the wards might well have been too much for any girl.

11. Becoming a doctor, for a woman, was considered
- (1) respectable
 - (2) a matter of pride
 - (3) unladylike
 - (4) exciting
12. Which of these statements is true ?
- (1) Elizabeth Garrett was inspired by Elizabeth Blackwell to become a doctor.
 - (2) Her parents inspired Garrett to become a doctor.
 - (3) Elizabeth Garrett wanted to become a doctor from her childhood.
 - (4) Florence Nightingale inspired Garrett to become a doctor.
13. Which of the following words cannot replace the word 'ridiculous' in the text ?
- (1) foolish
 - (2) surprising
 - (3) unreasonable
 - (4) commendable
14. Middlesex Hospital agreed to let Barrett come as
- (1) a doctor of trial
 - (2) a nurse on trial.
 - (3) a trainee under Pasteur.
 - (4) a trainee under Lister.
15. Hospitals then were different from what they are now because
- (1) there were no women doctors.
 - (2) the sights and smells were intolerable because of unsafe operations.
 - (3) they were not clean.
 - (4) there were no nurses.

ENGLISH

Q. 1-5 Read the following passage and answer the questions given after it :

Marie Sklodowska Curie (1867-1934) was born in Warsaw, Poland. As a student she participated in the students' revolutionary organization which was fighting against the directorial regime in Poland. She was forced to leave Poland for Paris because of her involvement in such activities. In 1903, she shared with her husband Pierre Curie and another scientist Henri Becquerel, the Nobel Prize in Physics for the discovery of radioactivity. Later in 1911, she received the Nobel Prize in Chemistry for the discovery and isolation of radium. She was the first person to win two Nobel Prizes. She and her husband discovered Polonium. This element was named in honour of her motherland, Poland.

Marie and her daughter Irene Joliot Curie died of radiation-induced illness. These two women risked their lives for the sake of advancement of science, which now greatly benefits the society. Irene and her husband Frederick Joliot-Curie shared the Nobel Prize in Chemistry in 1935. The Curie thus created a record by four family members having received Nobel Prizes. Despite her spectacular contribution to science, Marie's nomination to the French Academy of Sciences in 1911 was rejected by one vote because she was a woman!

1. Marie Curie won the Nobel Prize in Chemistry for
 - (1) discovery of radioactivity
 - (2) the laws of radioactivity Decay
 - (3) discovery and isolation of radium
 - (4) discovery of radium
2. Frederick Joliot-Curie was Marie Curie's

(1) husband	(2) father
(3) son	(4) son-in-law

3. In what way did Marie Curie and her daughter risk their lives for the advancement of science?
 - (1) They defied the dictators of Poland and France.
 - (2) They discovered polonium which had great side effects
 - (3) They exposed themselves to radium and died of disease caused by harmful radiation.
 - (4) They conducted hazardous researches in Poland
4. Marie Curie's nomination to the French Academy of Sciences was rejected by one vote because -
 - (1) the majority of members of the Academy had patriarchal views.
 - (2) She had already won the Nobel Prize.
 - (3) She was not a French citizen.
 - (4) the Academy members were envious of her as she won two Nobel Prizes.
5. Which of the following is TRUE ?
 - (1) Marie Curie won the Nobel Prize for the discovery of Polonium in 1935.
 - (2) Polonium was named after Marie Curie's country of birth.
 - (3) The discovery of Polonium prevented Marie Curie from being elected to the French Academy of Sciences.
 - (4) Polonium was Henri Becquerel's contribution to science.

Q. 6-10 Read the following passage and answer the questions given after it :

Over all the countryside, wherever one goes, indications of technique are visible to the seeing eye. By technique is meant an exercise of skill acquired by practice and directed to a well-foreseen end. It is the name for the action of any of our powers after they have been so improved by training as to perform that action with certainty and success.

6. The definition of 'technique' as given in the passage does not overemphasize.
 - (1) theoretical knowledge
 - (2) practice and performance
 - (3) scientific methods.
 - (4) results

82. The theory of 'General Will' was dopagated by
(1) Bentham (2) Rousseau
(3) James Mill (4) Alan Ball
83. The name of the present Secretary General United Nations is
(1) Ban Ki Moon (2) U Thant
(3) Hammarskjold (4) Waldheim
84. The Government of which country is ederal in form ?
(1) Britain
(2) Bangladesh
(3) The United States of America
(4) France
85. Who is the father of Political Science ?
(1) Marx (2) Gettle
(3) Plato (4) Asistotle

Economics

86. The supply of which factor of production is fixed ?
(1) Land (2) Labour
(3) Capital (4) Organisation
87. In an open economy GDP (Gross Domestic Product) and GNP (Gross National Product) are
(1) never equal
(2) always equal
(3) equal only in quilibrium
(4) equal when net income from abroad is zero

88. NABARD stands for
(1) National Aeronautics and Ballastic Research Development
(2) National Bank for Africulture and Rural Development
(3) National Bank for Agricultural Research and Development
(4) National Board for Aquatic Research and Development
89. If an increase in the price of petrol leads to a decrease in the demand for cars 'petrol' and 'cars'
(1) substitute (2) complements
(3) normal goods (4) inferior goods
90. Devaluation of rupee means
(1) fall in the weight of coins
(2) fall in the domestic purchasing power
(3) fall in the external purchasing power of rupee
(4) fall in the face value of rupee

68. To determine the location (Latitude & Longitude) of a ship on the sea which of the following instruments and charts are necessary
 (1) Compass, sextant or theodolite, nautical almanac (a chart which shows declination)
 (2) Sextant of Theodolite, Compass, Chronometer
 (3) Sextant or Theodolite, Chronometer, Nautical almanac
 (4) Prismatic compass, Sextant, Chronometer.
69. Dolerite, a semi crystalline rock is composed of felsic minerals. These are
 (1) Iron and silica
 (2) Feldsper and silica
 (3) Magnesium and silica
 (4) Nickel and silica
70. The magnitude of earthquake of Gujrat, in 2001 was 6.9 Richter, where as the earthquake of Indonesia in 2004 it was 8.9 Richter. If the intensity of energy released by the 1st one is 10 unit then what will be the intensity of 2nd one ?
 (1) 20 unit (2) 100 unit
 (3) 1, 000 unit (4) 10, 000 unit
71. Which of the following factors control weathering ?
 (1) Structure of rokes
 (2) Nature of ground slope
 (3) Climatic variations
 (4) All of these
72. Highest humidity is found in the atmosphere during the rainy season in the
 (1) Midnight (2) Evening
 (3) Noon (4) Morning
73. Which of the following climatic type is said to be charaterised by 'three eighties' 80° F of temperature, 80 % of humidity and 80 inches of rainfall ?
 (1) Equatorial climate
 (2) Mediterrance climate
 (3) Tropical monsoon climate
 (4) Temperature climate
74. Cotton textile industries are widely distributed throughout the country, because of
 (1) High quality cotton is produced throughtout the country
 (2) Cotton is a pure raw material
 (3) Cotton is a weight loosing raw material
 (4) Transportation cost of raw cotton in relatively low
75. Which of the following is the best example of 'Playas' ?
 (1) Tarism basin
 (2) Mississippin basin
 (3) Congo basin
 (4) None of these
- POLITICAL SCIENCE**
76. How many fundamental rights are there in the Constitution of India ?
 (1) 5 (2) 6 (3) 7 (4) 8
77. Lok Sabha is elected for
 (1) Three years (2) Four years
 (3) Five years (4) Seven years
78. The Chief Election Commissioner of India is appointed by
 (1) The President of India
 (2) The Prime Minister of India
 (3) The Chairman of the Rajya Sabha
 (4) The Speaker of the Lok Sabha
79. The final interpretor of the Indian Constitution is the
 (1) Parliament
 (2) President
 (3) Supreme Court
 (4) Election Commision
80. 'The Prince' was written by
 (1) Thomas Hobbes
 (2) Niccolo Machiavelli
 (3) Aristotle
 (4) David Easton
81. Who said that "Law is the Command of Sovereign" ?
 (1) John Austin (2) Green
 (3) Laski (4) Hegel

51. Which one of the following is a true statement?
 (1) Sweat and tears contain germ killing substances.
 (2) Antibiotics are useful against viral disease.
 (3) DPT vaccination is given against diphtheria, pertussis and typhoid.
 (4) Our body can produce only a limited variety of different antibiotics.
52. When CO₂ concentration in blood increases, breathing becomes
 (1) Shallower and slow
 (2) There is no effect on breathing
 (3) Slow and deep
 (4) Faster and deeper
53. The greenish colour of bile is due to
 (1) biliverdin and bilirubin
 (2) melanin
 (3) haematochrome
 (4) all of these
54. In an ecosystem volvox is a –
 (1) Plankton (2) Necton
 (3) Benthos (4) Phyto plankton
55. Which of the following is a hormone secreted from the salivary gland ?
 (1) gastrin (2) Bradykinin
 (3) Somatomedin (4) Renin
- HISTORY**
56. The Mauryan dynasty was overthrown by
 (1) Harshavradhana
 (2) Samudragupta
 (3) Pushyamitra Sunga
 (4) Kanishka
57. Who presided over the fourth Buddhist Council?
 (1) Basumitra (2) Basudandhu
 (3) Kanishka (4) Nagarjuna
58. Whose pseudonym was P.N. Thakur ?
 (1) Rashbehari Bose
 (2) Jatindranath Mukhopadhyay
 (3) Birendranath Chattopadhyay
 (4) Batukeshwar Dutta
59. 'The Atmiya Sabha' was founded by
 (1) Raja Rammohan Roy
 (2) Devendranath Tagore
 (3) Keshab Chandra Sen
 (4) Shibnath shastri
60. The famous bronze image of Nataraja is a fine example of
 (1) Chola Art (2) Gandhara Art
 (3) Pallava Art (4) Mauryan Art
61. The Court language of the Mughals was
 (1) Arabic (2) Hindi
 (3) Urdu (4) Persian
62. Who among these was not a 'moderate' ?
 (1) Surendranath Banerjee
 (2) Ferozeshah Mehta
 (3) Lala Lajpat Rai
 (4) Gopal Krishna Gokhale
63. Who was the Prime Minister of England at the time of Indian Independence ?
 (1) Ramsay MacDonald
 (2) Stanley Baldwin
 (3) Winston Churchill
 (4) Clement Attlee
64. Which day is celebrated as the 'United Nation's Day' ?
 (1) 25th April, 1945
 (2) 26th June, 1945
 (3) 24th October, 1945
 (4) 31st December, 1945
65. Who became the first Election Commissioner of India ?
 (1) T. N. Seshan
 (2) Sukumar Sen
 (3) Rammonohar Lohia
 (4) A. K. Gopalan
66. The result of the perihelion position of the earth is
 (1) Earth's temperature increases
 (2) The northern hemisphere is tipped maximum towards the sun
 (3) Velocity of earth's rotation and revolution increases
 (4) Duration of day increases than night in northern hemisphere
67. If a person crosses international date line from east to west what will be the result
 (1) He will lose one day
 (2) He will gain one day
 (3) He will lose 12 hours
 (4) He will lose two days

35. 1 litre of N_2 and $\frac{7}{8}$ litre of O_2 are mixed together under the same conditions of temperature and pressure. What relation will exist between the masses of the two gases in the mixture ?
- (1) $m_{N_2} = 3m_{O_2}$ (2) $m_{N_2} = 8m_{O_2}$
 (3) $m_{N_2} = m_{O_2}$ (4) $m_{N_2} = 16m_{O_2}$
36. Which set of compounds will be used in correct order for separation of a mixture of methane, ethylene and acetylene ?
 Concentrated H_2SO_4 , $KMnO_4$, Br_2 , Concentrated HCl , Ammoniacal Cu_2Cl_2 , Cl_2
- (1) Ammoniacal Cu_2Cl_2 , concentrated HCl and Concentrated H_2SO_4
 (2) Br_2 , concentrated HCl , Ammoniacal Cu_2Cl_2
 (3) Ammoniacal Cu_2Cl_2 , concentrated H_2SO_4 , $KMnO_4$
 (4) Ammoniacal Cu_2Cl_2 , Cl_2 , concentrated HCl
37. The number of gram-molecule of Oxygen is 6.022×10^{24} molecules of carbon monoxide is
- (1) 5 gm molecule (2) 10 gm molecule
 (3) 1 gm molecule (4) 0.5 gm molecule
38. When the same quantity of Zn is allowed to react separately with excess of H_2SO_4 and $NaOH$, the volume of H_2 gas evolved at same temperature and pressure will be in the ratio
- (1) 1 : 1 (2) 1 : 2 (3) 2 : 1 (4) 9 : 4
39. For an ideal gas, the number of moles per litre in terms of pressure, P gas constant R and temperature T is
- (1) $\frac{PT}{R}$ (2) PRT (3) $\frac{R}{RT}$ (4) $\frac{RT}{P}$
40. The atomic number of a metal M is 11. The formula of its oxide will be
- (1) MO (2) M_2O (3) M_2O_3 (4) MO_3
41. Which of the following mixture on mixing with distilled water will make the water hard ?
- (1) $Na_2SO_4 + NaCl$
 (2) $NaNO_3 + NH_4NO_3$
 (3) $MgSO_4 + Na_2SO_4$
 (4) $KCl + NaCl$
42. Which of the following pairs of compounds perform both combustion and addition reaction ?
- (1) C_2H_6 , C_3H_8 (2) C_2H_6O , C_3H_8O
 (3) C_2H_2 , C_2H_4 (4) C_4H_{10} , C_5H_{12}
43. Which of the following elements is most non-metallic ?
- (1) Na (2) F (3) Be (4) S
- BIOLOGY**
44. The primary electron acceptor in cyclic photophosphorylation is
- (1) a protein that contains iron and sulphur
 (2) Carbon-di-oxide
 (3) FAD
 (4) $NADP^+$
45. The two strands of a double-helix model of DNA are held together by hydrogen bonds between
- (1) sugar and phosphate groups
 (2) sugars and nitrogenous bases
 (3) phosphate group and nitrogenous bases
 (4) nitrogenous bases
46. The energy source that derives the upward flow of water in plant is
- (1) light (2) sucrose
 (3) solar heat (4) ATP
47. Nitrogen fixation by bacteria requires the enzyme
- (1) decarboxylase (2) nitrogenase
 (3) nitrogen deaminase (4) nitrodioxidase
48. The maximum number of microvilli occur in
- (1) Distal convoluted tubule
 (2) Proximal convoluted tubule
 (3) Loop of Henle
 (4) Collecting tubule
49. Brunner glands occur in
- (1) Stomach (2) Duodenum
 (3) Jejunum (4) Ileum
50. Function of Eustachgian tube is
- (1) Air flows through it
 (2) Connect mouth cavity with the middle ear
 (3) Maintair, equilibrium of air pressure on either side of the tympanum
 (4) No definite function

19. In $\triangle ABC$, if $\angle B = 60^\circ$, $\angle C = 30^\circ$, AD is perpendicular drawn from A on BC, then the

value of $\frac{\sin^2 \angle BAD - \cos^2 \angle BAD}{\cos^2 \angle CAD - \sin^2 \angle CAD}$

- (1) 1 (2) $\frac{1}{3}$ (3) $\frac{3}{4}$ (4) $1\frac{1}{3}$

20. The maximum value of $\cos^6\theta + \sin^6\theta$ is
 (1) 1 (2) 0 (3) 4 (4) 2

PHYSICS

21. In the equation of motion : $s = at + bt^2$, the unit of a and b respectively

- (1) m/s^2 , m/s^2 (2) m/s , m/s^2
 (3) m/s^2 , m/s^3 (4) m/s , m/s^3

22. A body of mass m collides against a wall with velocity v and rebounds with the same speed. The change of momentum of the body is given by

- (1) Zero (2) mv (3) 2 mv (4) - mv

23. Electromotive force denotes

- (1) Energy
 (2) Energy per unit charge
 (3) Current
 (4) Force

24. Fuel used in atomic reactor is

- (1) H^1 (2) D^2 (3) D_2O (4) U^{235}

25. Angular momentum is a

- (1) Scalar quantity
 (2) Polar vector quantity
 (3) Axial vector quantity
 (4) None of these

26. The working principle of jet engine depends on the principle of

- (1) Conservation of mass
 (2) Conservation of energy
 (3) Conservation of linear momentum
 (4) Conservation of angular momentum

27. Which of the following pair have same unit ?

- (1) Heat and Specific Heat
 (2) Thermal capacity and water Equivalent
 (3) Specific Heat and Thermal Capacity
 (4) Heat and Work

28. When light wave is refracted from one medium to another medium, which of the following quantity will not change in respect of the wave ?

- (1) Wavelength (2) Amplitude
 (3) Frequency (4) Velocity

29. Three resistances r_1 , r_2 , r_3 are in parallel combination and $r_1 > r_2 > r_3$. Then which relation is correct for the equivalent resistance R ?

- (1) $R > r_1$ (2) $R > r_2$ (3) $R > r_3$ (4) $R > r_4$

30. The half life and disintegration constant of two radioactive elements are T_1 , T_2 and λ_1 , λ_2 respectively. If $T_1 < T_2$, then the correct relation is

- (1) $\lambda_1 > \lambda_2$ (2) $\lambda_1 < \lambda_2$
 (3) $\lambda_1 = \lambda_2$ (4) $\lambda_1 = 2\lambda_2$

31. The frequency of two sound sources are 80 Hz and 960 Hz respectively. If T_1 and T_2 are the time periods, the correct relation is

- (1) $T_1 = T_2$ (2) $T_1 = 2T_2$
 (3) $2T_1 = T_2$ (4) $3T_1 = T_2$

32. The resistance of an ideal ammeter should be

- (1) Zero (2) Very low
 (3) Very high (4) Infinite

CHEMISTRY

33. Which one of the following is true about the two statements ?

Statement-I : All the isotopes of a given element show the same type chemical behaviour.

Statement-II : Chemical properties of an element is controlled by the number of electrons in the atoms of it.

- (1) Both I & II are correct
 (2) Both I & II are false
 (3) I is correct but II is false
 (4) II is correct but I is false

34. Which two metals turn passive in contact with concentrated HNO_3 out of the following ?

Zn, Fe, Mg, Cu, Al, Sn, Hg, Ag

- (1) Zn, Mg (2) Fe, Al
 (3) Cu, Sn (4) Hg, Ag

MATHEMATICS

- The value of $1000\left(\frac{1}{1 \times 2} + \frac{1}{2 \times 3} + \frac{1}{3 \times 4} + \dots + \frac{1}{999 \times 1000}\right)$ is
 (1) 1000 (2) 999
 (3) 0 (4) 1001
- If $(x + a)^2 + (y + b)^2 = 4(ax + by)$, where x, a, y, b are real, the value of $xy - ab$ is
 (1) a (2) 0
 (3) b (4) None of these
- Number of real roots of the equation $(x^2 + 1) - x^2 = 0$ is
 (1) 4 (2) 2 (3) 1 (4) 0
- If $r > 0$ and $\sqrt{r} + \frac{1}{\sqrt{r}} = 2$, the value of $r^2 + \frac{1}{r^2}$ is
 (1) 2 (2) 4
 (3) 8 (4) 16
- The number of solution of the equation $\sqrt{6 - 4x - x^2} = x + 4$ is
 (1) 0 (2) 1
 (3) 2 (4) 4
- A common factor of $(41^{43} + 43^{43})$ and $(41^{41} + 43^{41})$ is
 (1) $43 - 41$ (2) $41^{41} + 43^{41}$
 (3) $41^{43} + 43^{43}$ (4) $41 + 43$
- If $px + qy = 2, qx - py = 3$ and $x^2 + y^2 = 1$, the value of $p^2 + q^2$ is
 (1) 11 (2) 12
 (3) 13 (4) 15
- If 'm' men can complete a work in 'd' days, (m + r) men will complete the work in
 (1) (d + r) days (2) $\frac{d}{m}(m + r)$ days
 (3) $\frac{d}{m+r}$ days (4) $\frac{md}{m+r}$ days
- In a class of 35 students, position of Ram is 7th from the bottom; whereas position of Rahim is 9th from the top. If position of Tania is exactly the middle of Rahim and Ram, the position of Ram from Tania is
 (1) 11th (2) 13th (3) 10th (4) 9th
- If 4 lemons are sold at the cost price of 5 lemons, the percentage of profit is
 (1) 15 % (2) 20 %
 (3) 25 % (4) $22\frac{1}{2}$ %
- If the height of a right circular 'cone' is increased by 20%, its volume will be increased by
 (1) 10 % (2) 20 % (3) 25 % (4) 30 %
- If the radii and the heights of a hemisphere, circular cylinder and a cone be all equal, the ratio their volumes is
 (1) 2 : 3 : 1 (2) 2 : 1 : 3
 (3) 1 : 2 : 3 (4) 3 : 2 : 1
- In the number of angular points, edges and faces of a tetrahedron be x, y and z respectively, the value of $x - y + z$
 (1) 2 (2) 3 (3) 4 (4) 5
- In $\triangle ABC$, BD and CE are perpendicular to AC and AB respectively. If $BD = CE$, then $\triangle ABC$
 (1) Equilateral (2) Isosceles
 (3) Right-angled (4) Scalene
- Let C_1 and C_2 be the inscribed and circumscribed circle of a triangle with sides 3 cm, 4 cm and 5 cm. Then $\frac{\text{area of } C_1}{\text{area of } C_2}$ is equal to
 (1) $\frac{16}{25}$ (2) $\frac{4}{25}$ (3) $\frac{9}{25}$ (4) $\frac{9}{16}$
- If the greatest and least values of $(p + q \sin q)$ are 9 and 7 respectively, the values p and q are respectively.
 (1) 8, 1 (2) 5, 4]
 (3) 6, 3 (4) 7, 2
- If the angles of a triangle are in the ratio 1 : 2 : 1, the ratio of their corresponding sides is
 (1) 1 : 2 : 2 (2) 1 : 2 : $\sqrt{2}$
 (3) 1 : $\sqrt{2}$: 1 (4) $\sqrt{2}$: 1 : $\sqrt{2}$
- If $\tan\theta + 4 \cot\theta = 4$, the value of $\tan^3\theta + \cot^3\theta$ is
 (1) $8\frac{1}{8}$ (2) 16 (3) $7\frac{9}{8}$ (4) $27\frac{1}{27}$