Q1 In which State of India, sex ratio is minimum?
A. Tamil Nadu
B. Haryana
C. Kerala
D. Karnataka
Ans:
Q2 Which Indian State has the highest literacy rate?
A. Andhra Pradesh
B. Lakshadweep
C. Kerala

D. Mizoram

Ans:

Q3 Rapid and inclusive growth was the core theme of Eleventh Five Year Plan. What was its period?

A. 2007 - 2012 B. 2006 - 2011 C. 2008 - 2013 D. 1951 - 1956 Ans:

Q4 Standard 18 – carat sold in the market contains A. 82 parts gold and 18 parts other metals B. 18 parts gold and 92 parts other metals C. 18 parts gold and 6 parts other metals D. 9 parts gold and 15 parts other metals Ans:

Q5 Salts of which of the following elements provide colours to fire works ?

A. Zinc and Sulphur

B. Potassium and Mercury

C. Strontium and Barium

D. Chromium and Nickel

Ans:

Q6 Who among the following invented Lasers ?

A. Theodore Maiman

- B. Denis Papin
- C. Willium Morton
- D. Francis Crick

Ans:

Q7 Afzal Guru, a key plotter of the 2001 parliament attack was hanged early on _____ morning in Delhi's Tihar jail.

A. Jan. 9

B. Jan. 19

C. Feb. 9 D. Feb. 19 Ans:

Q8 International Women's Day is observed every year on A. Mar. 08 B. Mar. 18 C. Mar.28 D. Apr. 08

Ans:

Q9 Who is the Present Deputy Chairman of Planning Commission of india ?

- A. P. ChidambaramB. Montek Singh AhluwaliaC. Dr. Man Mohan Singh
- D. None of the above

Ans:

Q10 Who was appointed on Jan. 27 as the Chief Mentor of the Mumbai India IPL team ?

- A. Anil Kumble
- B. Kapil Dev
- C. Chandrashekar
- D. S.Ganguly

Ans:

Q11 With which sports is Yogeshwar Dutt associated ?

- A. Shooting
- B. Boxing
- C. Wrestling
- D. Hockey

Ans:

Q12 Kumbh Mela is held every third year at one of the four places, namely – Haridwar, Allahabad (Prayag), Nasik and _____ by rotation. Thus Kumbh Mela is held at each of these places every twelfth year.

- A. Banaras
- B. Ujjain
- C. Badrinath
- D. Pushkar

Ans:

Q13 From April 2013, which additional test is a must for Indian doctors in UK as per new rules which come into force in the National Health Service (NHS)?

- A. Physical test
- B. Proficiency test
- C. Aptitude
- D. Language

Ans:

Q14 In making the saffron spice which one of the following parts of the plant is used?

- A. Petal
- B. Stigma
- C. Leaf
- D. Sepal

Ans:

Q15 Who is the director, writer, co-producer and actor of the 2013 Tamil spy thriller film 'Vishwaroopam' released world wide excluding Tamil Nadu on 25-1-2013?

- A. Rajani Kant
- B. Prabhu Deva
- C. Kamal Haasan
- D. Prakash Raj

Ans:

Q16 Which State is historically called the "Rice Bowl of India"?

- A. Andhra Pradesh
- B. Punjab
- C. Haryana
- D. Tamil Nadu

Ans:

Q17 Which one of the following statements regarding Bharat Ratna Award is not correct?

A. It is republic of India's highest civilian award

- B. It was introduced in 1954
- C. It is awarded to Indian citizens only

D. In 1954, it was awarded to C.G.Raman, Rajgopalachari and S.Radhakrishnan Ans:

Q18 Name the film which won the Oscar Award for the Best Film in 2012?

- A. The Iron Lady
- B. The Artist
- C. The Help
- D. Beginners

Ans:

Q19 Who is the new (present) Lokayukta of Karnataka?

- A. N. Santhosh Kumar
- B. N.Suresh Kumar
- C. K.N. Subba Reddy
- D. Y. Bhaskar Rao

Ans:

Q20 To which country does Ms. Wenxia Yu who was crowned Miss World 2012 belongs? A. China B. Japan C. Thailand D. South Korea Ans: Directions for 21 to 24 : Read the following information and answer the question aiven below. (i) A,B,C,D, E,F and G are sitting in row facing north. (ii) F is to the immediate right of E. (iii) E is fourth to the right of G. (iv) C is neighbor of B and D. (v) Person who is third to the left of D is at one of the ends. Q21 What is the position of A? A. between E and D B. to the extreme right C. to the extreme left D. fifth of the right of G Ans: Q22 Who among the following area to the left of C? A. G, B and D B. D, E, F, and A C. Only B D. G and B Ans: Q23 Who are neighbours of B? A. C and D B. G and B C. C and G D. F and G Ans: O24 Which of the following statements is definitely false? A. G is to the immediate left of B B. F is second to the right of D C. A is at one of the ends D. E is to the immediate left of D Ans: Q25 How many 2's not immediately preceded by 3 but immediately followed by 4 are there in the following series? 3424423243242344232424324 A. 1

B. 2 C. 3 D. 4 Ans:

```
Q26 If `+' means `÷', `÷' means `-`, `-` means `x' and `x' means `+' then 12 + 6 ÷ 3
- 2 x 8 = ?
A. -2
B. 4
C. 2
D. 8
```

Ans:

Q27 Pointing to Sathish Ashok said, "He is my sister's only brother's son". How is Sathish related to Ashok?

A. Son

B. Grandson

C. Nephew

D. Brother

Ans:

Directions for 28 and 29 : Three of the following four are alike in a certain way and so form a group. Which is the one that does not belong to that group?

Q28

A. Tomato B. Apple C. Orange D. Potato Ans:

Q29 A. SU B. BD C. PN D. WY Ans:

Q30 In a certain code TOGETHER is written as RQEGRJCT. In the same code, PAROLE will be written as

A. RCPQJK

B. RCTQNG

C. NCPQJG

D. NCQPJG

Ans:

Q31 In the series, DFK FEL HDM JCN? $\ensuremath{\sc Y}\ensuremath{\sc Y}\ensuremat$

B. LBO C. LDO D. LAO Ans:

Directions for 32 to 34 : In each question below are given two statements followed by four conclusions numbered I, II, III, IV. You have to take the two given statements to be true even if they seem to be at variance from commonly known facts. Read all the conclusions and then decide which of the given conclusion logically follows from the two given statements, disregarding commonly known facts.

Q32 Statements : Some dogs are doors.All doors are bats.Conclusions : I Some dogs are bats.II All dogs are bats.III Some bats are dogs.IV All bats are dogs.

A. All follow B. None follows C. Only II and IV follow D. Only I and III follow Ans:

Q33 Statements : Some pencils are papers.Some papers are boxes.Conclusions : I some pencils are boxes.II Some boxes are pencils.III Some boxes are papers.IV Some papers are pencils

A. Only I and II follow B. All follow C. Only III and IV follow D. None follows Ans:

Q34 Statements : Some shirts are tables. No table is chair. Conclusions: I No shirt is chair. II Some tables are shirts. III No chair is shirt. IV Some chairs are shirts.

A. All followB. Only II followsC. Only II and IV follow

D. Only III follows Ans:

Q35 Which one is different from the rest of three?

Q36 Three of the following four groups of English letters are alike in a certain way while one is different. Find the one which is different.

A. BDG

B. KMP

C. DFI

D. PRT

Ans:

Q37 If A is B's brother, B is C's sister and C is D's father, then D is A's

A. Brother

B. Sister

C. Nephew or niece

D. Father

Ans:

Q38 Veena is taller than Anju but shorter than Rita. Sushma is taker than Veena and Meera. Meera is taller than Veena. Who among them is the shortest?

A. Anju

B. Meera

C. Veena

D. Sushma

Ans:

Q39 Which one of the city and the date matches with the following? City : KRISHNARAJAPURAM Date : 5th DECEMBER, 1990 A. KRISHANARAJAPURAM 5th DECEMBER, 1990 B. KRISHNARAJAPURAM 5th DECEMBER, 1990 C. KRISHNARAJPURAM 5th DECEMBER, 1990 D. KRISHNARAJAPURAM 6th DECEMBER, 1990 Ans:

Q40 Daya has a brother Anil. Daya is a son of Chandra. Bhiman is Chandra's father. In terms of relationship, what is Anil to Bhiman?

A. Grandfather B. Brother C. Grandson D. Son Ans:

Q41 A bike passes 21 telegraphic poles in a minute's time. The distance between any two consecutive poles is 40 meters. What is the average speed of the bike in Kilometres per hous? A. 4.8 Km/h B. 18 Km/h C. 480 Km/h D. 0.48 Km/h Ans:

Q42 5 Kg. of a commodity is purchased at ` 100/Kg., 6 Kgs. at ` 110/Kg. and 9 Kg at `120/Kg. What is the average price of the commodity per Kg. ? A. `100/Kg. B. `110/Kg. C. `112/Kg. D. `120/Kg. Ans:

Q43 The average age of 7 members of a family is 18 yrs. If the head of the family is excluded, the average age of the rest of the members would fall to 13 yrs. What is the age of the head of the family ?

A. 48 yrs B. 38 yrs C. 58 yrs D. 40 yrs Ans :

Q44 A debenture of the face value of `100 is bought for `75 and the debenture pays interest at the rate of 15% per annum. Compute the current yield on the debenture.

A. 25% per annumB. 15% per annumC. 10% per annumD. 20% per annumAns:

Q45 Find the interest earned on ` 12,000 cash invested in 15% stock at 80.

- A. `2,000
- B. ` 2,250 C. ` 2,500
- C. 2,500
- D. `2,200
- Ans :

Q46 If 15 men working 12 hours per day perform a job in 14 days, how long will it take 21 men working 10 hours daily to do the same task ?

A. 12 days B. 13 days C. 14 days D. 10 days Ans :

Q47 An employer raises his workman's hourly rate of wages in the ratio of 4:5 but reduces the hours of labour per week in the ratio 9 : 8. What will be the increase in total weekly wages bill which previously amounted to `585 ?

A.`60

B.`65

C. `50

D.`70

Ans :

Q48 A school has 180 students. Among them 150 speak English, 100 speak Hindi, Some students speak both English and Hindi. How many of them speak English only?

A. 30

B. 70

C. 80

D. 100

Ans:

Q49 The area of a square field of 625 $m^2.$ What is the cost of fencing is at ` 25 per metre?

A. `250 B. `2,000 C. `2,500 D. `500 Ans:

Q50 When a book is sold ` 10 there is a profit of ` 3. If the same book is sold for ` 20, what will be the profit? A. `6

B. `13 C. `7 D. `17

Ans:

Q51 Express 1 day 16 hours 4 minutes as a decimal fraction of 8 days 8 hours 20 minutes.

A. 0.20 B. 0.30 C. 0.25 D. 0.35 Ans: Q52 $\frac{2^{0}x3^{1}+7}{3^{0}+3^{2}x7} = ?$ A. 7/9 B. 10/9 C. 12/13 D. 1 Ans: Q53 If the ratio of the areas of two circles is 9 : 4m what is the ratio of their radii? A. 81 : 16 B. 3 : 2 C.5:4 D. 4.5 : 2 Ans: Q54 Length of the diagonal of a square is $5\sqrt{2}$ cm. What is its perimeter? A. 22 cm B. 50 cm C. 15 cm D. 20 cm Ans: Q55 Three circles with centres P, Q and R touch each other externally. Their radii are 3 cm, 4 cm, 5 cm. Find the perimeter of Δ PQR. A. 24 cm B. 12 cm C. 60 cm D. 30 cm Ans: Q56 $\left(\frac{2}{5} + \frac{3}{7}\right) + \left(\frac{3+3}{7x5}\right) = ?$ A. 0 B. 1 C. 11/35 D. 32/35 Ans: Q57 One third of Gowri's marks in History equals her marks in Geography. If she Obtained 160 marks in the two subjects together, how may marks did she get in Geography? A. 60

- B. 30
- C. 40
- D. 90
- Ans:

Q58 Ramesh started a business investing `30,000. Six months later, Yogesh joined him investing `15,000. If they make a profit of `10,000 at the end of the year, how much should the share of Ramesh be?

A. `6,000 B. `7,000 C. `8,000

D.`5,000

Ans:

Q59 Which number should replace both the question marks in $\frac{?}{49} = \frac{784}{?}$?

A. 196 B. 14

C. 28

D. 7

Ans:

- Q60 $\left(\sqrt{2} \frac{1}{\sqrt{2}}\right)^2 = ?$ A. $1\frac{1}{2}$ B. $2\frac{1}{2}$
- C. $3\frac{1}{2}$ D. $\frac{1}{2}$

Ans:

iv) भाषा परीक्षण : हिन्दी

- 61. तहस नहस हो जाना इसका सही अर्थ है
- A. बढ़ जाना
- B. यथावत रहना
- C. कम होना
- D. नष्ट होना
- 62. _____ फल खाता हूँ। यहाँ का सही सर्वनाम शब्द है।
- A. आप
- B. तुम
- C. वह

D. मैं

- 63. खेलने वाले को कहते हैं
- A. खेलाडी
- B. खिलाड़ी
- C. लडाकू
- D. किलाडी
- 64. बालक का बहुवचन रूप है
- A. बालकी
- B. ৰালকা
- C. बालके
- D. बालक
- 65. पंडितजी, आप पानी _____ क्रियापद है।
- A. पी
- B. पीओ
- C. पीजिए
- D. पीता
- 66. 'सम्मान' इसका समानार्थक शब्द है
- A. समान
- B. सामान
- C. बेइज्जत
- D. इज्जत
- 67. उपस्थित शब्द का विरुद्ध पद है
- A. हाजर
- B. गेरहाजरी
- C. अनुपस्थित
- D. अनूपस्थिति
- 68. 'खून-पसीना एक करना' मुहावरे का अर्थ
- A. काम करना
- B. याद आना
- C. कठिन परिश्रम करना
- D. कष्ट उठाना
- 69. "कर" शब्द का भाववाचक संज्ञा रूप हैं
- A. करनी
- B. करानी

C. करी

- D. करिए
- 70. 'तपस्वी' शब्द का अन्य लिंग
- A. तपस्विन
- B. तपस्वी
- C. तपस्वन
- D. तपस्विनी
- 71. सदी शब्द का समानार्थक शब्द है
- A. शादी
- B. दस
- C. हज़ार
- D. शताब्दी

72. संज्ञा शब्द के बदले उसके स्थान पर जिन शब्दों का उपयोग होता है उन्हें _____ कहते हैं।

- A. বিशेषण
- B. सर्वनाम
- C. कारक
- D. क्रिया
- 73. 'बेटा' शब्द का अन्यलिंग रूप है
- A. बेटी
- B. बेटे
- C. बेटा
- D. लड़का
- 74. आदमी का अन्यलिंग रूप है
- A. आदमियाँ
- B. औरत
- C. आदमी
- D. आदमीयाँ
- 75. मास का विशेषण रूप है
- A. मासिक
- B. माष
- C. मसीका
- D. मासिका

निम्नलिखित गद्यांश को पढ़कर नीचे लिखे प्रश्नों के उत्तर लिखिए।

हमारी धरती ने बापू को जन्म दिया। किन्तु इस धरती का यह सौभाग्य न हुआ कि जो महापुरुष देश की पराधीनता की बेड़ियाँ काटे और देश की प्रतिष्ठा को संसार में ऊँचा ले जाए, वह अपने द्वारा प्रतिष्ठित स्वतंत्र राष्ट्र में जीवित रहकर विश्वशांति और विश्व बंधुत्व की स्थापना करने का अपना सपना पूरा कर सके। महात्मा जी को इससे अच्छी मृत्यु और क्या मिल सकती थी कि मानवता की रक्षा करते हुए उन्होंने अपने प्राण दिए।

- 76. महात्माजी ने हमारे लिए क्या किया?
- A. पराधीनता की बेडीयों से मुक्त किया
- B. बेडियाँ डालकर बंदिल किया
- C. धरती का सौभाग्य काटा
- D. दूसरों को दिया
- 77. महात्माजी की मृत्यु कैसे हुई?
- A. बेड़ी डालने के बाद
- B. विश्व बंधुत्व के बाद
- C. देश की रक्षा करने के बाद
- D. मानवता की रक्षा करते हुए
- 78. महात्माजी किस सपने को पूरा न कर सके?
- A. विश्वशांति
- B. विश्वबंधुत्व
- C. विश्वशॉति और विश्वबंधुत्व स्थापना
- D. राज्य की रक्षा
- 79. महात्माजी संसार में किसे ऊँचा ले गए?
- A. संसार की प्रतिष्ठा
- B. नाम की प्रतिष्ठा
- C. देश की प्रतिष्ठा
- D. घर की प्रतिष्ठा
- 80. हमारी धरती ने किसको जन्म दिया?
- A. मानव
- B. वीर
- C. कायर
- D. बापू

Directions for 81 and 82 Choosing the word or phrase which is opposite in meaning to the key word.

Q81 genuine A. counterfeit

- B. modernC. veritableD. unadulteratedAn:
- Q82 grow A. germinate B. decay C. swell D. disten Ans:

Directions for 83 and 84 : In each group one word in mis-spelt. Find the mis-spelt Word.

Q83 A. Humilliation B. Reconciliation C. Concession D. Application Ans:

Q84

- A. PenanceB. SusceptibleC. Suspicious
- D. Menace

Ans:

Directions for 85 and 86: Find out which part of the sentence has an error. If there is no error, mark your answer as (D).

Q85 What is worst, (A)/ this distortion cannot be corrected (B)/ by either contact lens or glasses (C). Ans:

Q86 The elegantly designed collection (A)/ for ladies has an emphasis (B)/ with style, variety and colour (C) . Ans:

Directions for 87, 88, 89 ; Choose the correct alternative and fill in the blank.

Q87 The government agreed to pay compensation _____ damaged crops, land and cattle. A. to B. through C. for D. of Ans:

Q88 The meeting was presided _____ by the Prime Minister. A. upon B. over C. on D. up Ans: Q89 Mary's marriage ____ Hemingway was much talked about.

A. to B. for C. between D. with Ans:

Directions for 90 and 91 : Four alternatives are given for the word underlined in the sentence. Choose the one which best expresses the meaning of the underline word.

Q90 He is so meticulous that he can never do anything in a hurry.

A. slow B. secretive C. lazy D. very careful Ans:

Q91 Our art treasures must be kept for <u>posterity</u> A. future generations B. prosperity C. the wealthy D. interested

Ans:

Directions for 92 and 93 : First and the last parts of the sentence are numbered as 1 and 6. The rest of the sentence is split into four parts and name P, Q, R and S. These four parts are not given in their proper order. Read the sentence and find out which of the four combinations is correct.

Q92 1 : I would P : defeat than Q : rather suffer R : to be ashamed S : have cause 6 : of victory. A. Q P S R B. S P R Q C. P S R Q D. R S Q P Ans: Q93 1 : People who P : are terrible Q : no way of taking r: there is S : have no weaknesses 6 : advantage of them. A. P S Q R B. R S P Q C. S P R Q D. Q S R P Ans:

Directions for 94 and 95 : Pick out the most effective word from the given words fll in the blank to make ` the sentence complete.

Q94 Because of the poor _____ in the hall, the singers were barely audible .

A. acoustics

B. visibility

C. quality

D. tone

Ans:

Q95 The government might _____ whether it will be safe to make a completely dependent organization suddenly wholly independent.

- A. think
- B. consider
- C. ignore
- D. report

Ans:

Read the passage carefully and answer the questions that follow.

Most people, when asked what spiritual quality is needed to rebuild civilisation, Will reply 'Love', Love is a great force in private life, it is indeed the greatest of all things, but love in public affairs does not work. It has been tried again and again and it has always failed. The idea that nations should love another, or that a man in Portugal should love a man in Peru of whom he has never heard, is absurd , unreal and dangerous. It leads us into perilous and vague sentimentalism. "Love is what is needed", we chant and then sit back and the world goes on as before. The fact is we can love only what we know personally.

In public affairs, in the rebuilding of civilizations, something much less dramatic and emotional is needed. namely ,tolerance. Tolerance is a very dull virtue, It is boring. Unlike love, it has always had a bad press, It is negative. It merely means putting up with people, being able to stand things. Yet this is the quality which is most needed. this is the sound state of mind which we are looking for. This is the only force which will enable different races and classes and interests to settle down together and work for a better future.

The world is full of people, it has never been so full before and they are all tumbling over each other. Most of these people one doesn't know and some of them one doesn't like, either for their colour, or for their religion or for thir way of living or for their clothes and so on. Well, what is one to do? If you don't like the people, kill them, banish them proclaiming that you are the salt of the earth or put up with them as well as you can. Don't try to love them, you can't but to try to tolerate them. One the basis of that tolerance a civilized future may be built.

Q96 What is the theme of the passage?

- A. People should have each other
- B. Tolerance is needed to rebuild civilization
- C. Tolearance is a great force in private life

D. Love is vague sentimentalism Ans:

Q97 According to the author, 'love' does not work in public affairs because

- A. It is dangerous and vague sentimentalism
- B. The French Revolution did not work

C. We cannot love somebody whom we don't know

D. Love is a great force in private life

Ans:

Q98 Which of the following is not true for 'love' according to the author?

A. Love is vague sentimentalism

B. Love is dramatic

C. Love is a dull virtue

D. Love is emotional

Ans:

Q99 What does the phrase 'salt of the earth' mean?

A. Preserver of the earth

B. An experienced person

C. Common salt

D. Most important of all

Ans:

Q100 What is the practical way of preserving civilization?

A. Segregate people

B. Strain yourself

C. Love people

D. Put up with people

Ans:

Q101 For a harmonic oscillator the graph between momentum 'p' and displacement 'x' would come out as

A. a straight line

B. a parabola

C. a circle

D. an ellipse

Ans:

Q102 A bullet is fired vertically up from a 400 m tall tower with a speed 80 m/s. If 'g' is taken as 10 m/s^2 , the time taken by the bullet to reach the ground will be

A. 8 s B. 16 s C. 20 s D. 24 s Ans:

Q103 With rise of temperature the coefficient of electrical resistance

A. decreases for a thermistor

B. increases for a doped semiconductor

C. decrease for tungsten wire

D. may increase or decrease for a pure semiconductor Ans:

Q104 With 'p' for proton and 'n' for neutron, the nunclear forces have strengths in the order

A. p - p > p - n > n - nB. n - n > p - n > p - pC. n - n > p - p > p - nD. n - n = p - p = p - nAns:

Q105 A beam of protons and a beam of helium nuclei have identical deBrogile wavelengths. Then the have

A. Veolocity ratio 4
B. KE ratio 2
C. Momenta ratio ½
D. None of above
Ans:

Q106 The diamagnetism of an atom arises due to

A. orbital motion of elections

B. spin motion of electrons

C. motion of protons in the nucleus

D. permanent dipole moment of the atom

Ans:

Q107 The particles that makeup lattices of the Van Der Walis crystals, ionic crystals and covalent crystals are respectively

A. atoms, electrons, molecules

B. molecules, ions, atoms

C. atoms, ions, molecules

D. molecules, electrons, atoms Ans:

Q108 Compare the energy of recoil of an atom when it emits an X-ray photo (λ = 1A) to that when it emits a photon of visible light of wavelength 5000 A A. 1 : 5000 B. 5000 : 1 C. √5000 : 1 D. (5000)² :1 Ans:

Q109 Which one of the following is not an electromagnetic process?

A. Bremsstrahlung

B. Compton effect

C. Radio activity

D. Pair production

Ans:

Q110 For exciting line with $\lambda = 5000$ A, the stokes Raman line for a substance falls at 5100 A. For the same substance with exciting line at $\Box = 4000$ A, anti-stokes line should fall nearest to wavelength

A. 3940 Å B. 3900 Å C. 4060 Å D. 4100 Å Ans:

Q111 A transducer is a device which converts

A. sound signals into electrical ones

B. electrical signals into acoustics ones

C. optical signals into electrical ones

D. any one form of signals into another form

Ans:

Q112 The temperature at which root mean square speed of nitrogen molecules is equals to the escape velocity from earth's surface is closest to

A. 10⁸ k

B. 10⁶ k

C. 10⁵ k

D. 10⁴ k

Ans:

Q113 A surface has wok-function 2.4 eV. The kinetic energies of fastest photo electrons emitted from its furface under radiations of photon energies 3.00 eV and 4.00 eV will bear the ratio

A. 27 : 32 B. 3 : 4 C. 1 : 2 D. 3 : 8

Ans:

Q114 The dimensions $\in_0 \mu$ of are the same as those of

A. (velocity)⁻² B. (velocity)² C. Velocity D. (velocity)^{- 1/2} Ans:

Q115 Two coherent sources of intensity ratio 25: 4 are used in an interference experiment. Find the ratio of intensities of maxima and minima in the interference pattern.

A. 49 : 9 B. 25 : 16 C. 4 : 9 D. 7 : 3 Ans:

Q116 The half like of an elementary particle moving with speed 0.9 C is measured to be 5×10^{-8} sec. In the laboratory. Its proper half life will be A. 2.2 sec B. 2.2 x 10^{-8} sec C. 0.22 x 10^{-8} sec D. 22 x 10^{-8} sec Ans:

Q117 A cubic crystal contains 10²¹ atom per C.C. What will be the approximate wavelength of electrons which will display diffraction?

A. 10⁻⁴ A B. 10 A C. 10⁴ A D. 10⁶ A Ans:

Q118 A circuit having a resistance R in series with a parallel combination L and C is

driven by an ac source of frequency $\frac{1}{2\pi\sqrt{LC}}$. The impedance offered by the

Circuit is

A. purely ohmic and very large

- B. inductive and low
- C. capacitve nad high
- D. complex and low

Ans:

Q119 The truth table for two input logic gate is as given below

- A B Output
- 001
- 011
- 101
- 110

Then the logic gate is A. NAND gate B. AND gate C. OR gate D. NOR gate Ans: Q120 When a JFET is operated above pitch-off voltage, the drain current? A. increase sharply B. becomes constant C. starts decreasing D. becomes zero Ans:

Q121 The ionization enthalpy of hydrogen atom is 1.312×10^6 J MoI⁻¹. The energy required to excite the electron in the atom from level n = 1 to n = 2 is

A. 9.84×10^5 J Mol⁻¹ B. 6.56×10^5 J Mol⁻¹ C. 8.51×10^5 J Mol⁻¹ D. 3.56×10^5 J Mol⁻¹ Ans:

Q122 For the reaction system 2 NO_(g) + O_{2(g)} \rightarrow 2NO_{2(g)}, the volume is suddenly reduced to half its value by increasing the pressure on it. If the reaction is first order with respect to O₂ and second order with respect to NO, the rate of reaction will

A. increase to four times of its initial value

B. decrease to one – fourth of its initial value

C. decrease to one – eight of its initial value

D. increase to eight times of its initial value Ans:

Q123 In an ionic compound, atoms of element Y form cubical closest packing and those of element X occupy 2/3 of tetrahedral voids. The formula of the compound will be

A. X₃ Y B. X₂ Y₃ C. X₄ Y₃ D. X₂ Y Ans :

Q124 Which of the following statements is wrong ?

A. Carbon with sp hybrid orbital is more electronegative that sp² hybrid orbital B. The size of sp³ hybrid orbitals of carbon is smaller than that of sp hybrid orbitals C. Amongst CH₄, C₂H₄, C₂H₂, the C – H bond length is maximum in methane D. The resonating structures do not differ in the number of unpaired electrons Ans :

Q125 Consider the acidity of carboxylic acid A. C_6H_5COOH B. O - $NO_2C_6H_4COOH$ C. P - $NO_2C_6H_4COOH$ D. M - $NO_2C_6H_4COOH$

Which of the following order is correct

A. I > ii > iii > iii > iv B. ii > iv > iii > i C. ii > iv > i > i > iii D. ii > iii > iv > i Ans :

Q126 The increasing order of stability of following free redicals is A. (CH3)2 CH < (CH3)3 C < (C6H5)3 C < (C6H5)2 CH B. (CH3)2 CH < (CH3)3 C < (C6H5)2 CH < (C6H5)3 C C. (C6H5)3 C < (C6H5)2 CH < (CH3)3 C < (CH3)2 CH D. (C6H5)2 CH < (C6H5)3 C < (CH3)3 C < (CH3)2 CH Ans:

Q127 A metal M forms chlorides in its+2 and oxidation states. Which of the following statements about these chlorides correct ? A. MCI2 is more easily hydrolyse than MCI4 B. MCI2 is more volatile than MCI4 C. MCI2 is more soluble in anhydr ethanol than MCI4 D. MCI2 has higher melting point MCI4 Ans:

Q128 In which of the following conversions, both bond order and magnetic property of the species increases ?

A. $CO \rightarrow CO^+$ B. $O_2 \rightarrow O_2^-$ C. $N_2^- \rightarrow N_2^+$ D. $NO \rightarrow NO^+$ Ans :

Q129 In which of the following molecules/ions all bonds are not equal ?

A. BF_4^-

B. SiF₄

C. SF₄

D. XeF_4

Ans :

Q130 Select the correct statements among the following

A. Ortho C₆H₄ (OH) (CHO) molecules have intermolecular hydrogen bonding

B. If an electron has magnetic quantum number value m = 0,than it must be present in 's' orbital C. The number of oxygen atoms in 1 gm of O₂ and 1gm of O₃ are same D. CIF₃ is a non polar, planar molecule Ans :

Q131 The correct decreasing order of priority for the functional group of organic compounds in the IUPAC system of nomenclature is

A. -CONH₂, -CHO, -SO₃H,-COOH B. -COOH, -SO₃H, -CONH₂, -CHO C. -SO₃H, -COOH, -CONH₂, -CHO D. -CHO, -COOH, -SO₃H, -CONH₂ Ans:

Q132 The pka of a weak acid, HA is 4.8 and pkb of a weak base, BOH is 4.78. Than the pH of an aqueous solution of the corresponding salt BA will be

A. 9.22 B. 9.58 C. 4.79 D. 7.01 Ans:

Q133 Which of the following statements is to with regard to the complex potassium ferricyanide?

A. The central mental atom in the complex obeys EAN rule

B. It is less stable than potassium ferrocyanide

C. It is paramagnetic octahedral to spin complex

D. The primary valency of iron is satisfied by 3 K⁺ ions

Ans:

Q134 The gold number of protective collo A,B,C, D are 0.5, 0.01, 0.10 and 0.0 Respectively. The correct order of the protective power is

A. B < D < A < C B. D < A < C < B C. C < B < D < A D. A < C < B < D Ans:

Q135 In which of the following arrangements the sequence is not strictly Observed according to the property written against it A. NH₃ < PH₃ < AsH₃ < SbH₃ – increasing basis strength B. B < C , O < N – increasing I – ionization energy C. HF < HCI < HBr < HI – increasing acid strength D. NF₃ < NH₃ < H₂O – increasing dipole moment Ans:

Q136The polymer containing strong intermolecular force of attraction (i.e Hydrogen bonding is)

A. Natural rubber B. Teflon C. Nylon 6, 6 D. Polystyrene Ans:

Q137 An organic compound C_3H_6O does not give a precipitate with 2, 4 – Dinitrophenylhydrazine and does not react with sodium metal. The compound may be

A. $CH_3 - CH_2 - CHO$ B. $CH_2 = CH - O - CH_3$ C. $CH_3 - CO - CH_3$ D. $CH_2 = CH - CH_2OH$ Ans:

Q138 An inorganic salt 'A' gives a white precipitate with dil. H_2SO_4 , yellow Precipitate with potassium chromate in presence of acetic acid and a clear Solution in dilute HCI. The compound 'A' may be

A. Lead carbonate

- B. Silver nitrate
- C. Barium chloride
- D. Calcium bromide

Ans:

Q139 Aluminium oxide may be electrolysed at 10000C to furnish aluminium Metal (Atomic mass of AI = 27 amu). The cathodic reaction is $AI^{3+} + 3e^- \rightarrow AI$. If one Farad is 96500 C mol⁻¹, the electricity required to prepare 5.12 Kg of aluminium is A. 5.49 x 10⁴ C B. 5.49 x 10⁷ C C. 5.49 x 10² C D. 1.83 x 10⁷ C Ans:

Q140 In a cell that utilizes the reaction $Zn_{(s)}$ + $2H^+{}_{(aq)} \rightarrow Zn^{2+}{}_{(aq)}$ + $H_{2(g)}$ addition of H_2SO_4 to Cathode compartment will

A. Lower the 'E' and shift the equilibrium to the left

B. Lower the 'E' and shift the equilibrium to the right

C. Increase the 'E' and shift the equilibrium to the right

D. Increase the 'E' and shift the equilibrium to the left Ans:

Q141 Which one among the following lipids is not found in the plasma membrane?

A. Phosphoglycerides

- B. Sphingolpids
- C. Phytanic acid
- D. Cholesterol

Ans:

Q142 Which one of the following best explains the role of G 1 phase during the Cell cycle?

- A. Cell grows and carries out normal metabolism
- B. DNA replication and chromosome duplication
- C. Cell grows and prepares for mitosis
- D. Cytoknesis

Ans:

Q143 Which of the following statements does not explain the structure of water? A. The oxygen nucleus attracts electrons more strongly than does the hydrogen Nucleus

- B. The sharing of electrons between H and O is unequal
- C. It is a linear molecule
- D. The H-O-H bond angle is 104.5°

Ans:

Q144 Which one of the following is a suitable example for a non-polar molecule? A. Glucose

- B. Honey wax
- C. Lactate
- D. Phenyl alanine

Ans:

Q145 How aeukaryotic cell-wall differs from that of a prokaryote? It is by the Presence of

- A. cellulose
- B. diaminopimelic acid
- C. muramic acid
- D. peptidoglycan

Ans:

Q146 Which one of the following helps to collect and focus the light rays on the Specimen in a light microscope?

- A. Eye piece
- B. Nose piece
- C. Condenser lens
- D. Coarse adjustment knob
- Ans:

Q147 Which one among the entire group fits to give example of carbohydrates? A. Glucose, Mannose, Maltose, Lactate

- B. Phosphoglyceraldehyde, Erythrose, Sucrose, Lactose
- C. Dohydroxyacetone Phosphate, Arabinose, Fructose, Succinate
- D. Glycine, Glycan, Glucose, Gluconate

Ans:

Q148 Which one of the following stages is identified when the chromatids are Separated and attached to the spindle?

A. Prophase

B. Metaphase

C. Anaphase

D. Telophase

Ans:

Q149 Which one of the following is classified under sponges?

A. Venus's flower basket

B. Hydra

C. Portuguese man-of-war

D. Sea anemone

Ans:

Q150 In one of the cytological slides, the homologous chromosomes are seen in Synapsis; a protein containing synaptinemal complex is formed to facilitate crossing over. In which stage the above state of the cell is identified?

A. Leptotene

B. Zygotene

C. Pachytena

D. Diplotene

Ans:

Q151 An organism under observation is found to be spindle shaped and single celled. It has a long flagellum showing contractile locomotion in pure water. There appears a single nucleus and many chloroplasts. To which one of the f following kingdoms the organism fits into?

A. Monera

B. Protista

C. Mycota

D. Plantae

Ans:

Q152 Nostoc cell differs that of E coli in the following features :

A. Having photosynthetic pigments

B. Heterocysts

C. Autotrophic nutirition

D. All the above

Ans:

Q153 The most abundant gaseous element in the atmosphere is

A. Nitrogen

B. Fluorine

C. Hydrogen

D. Chlorine

Ans:

Q154 Find out the correct answer from the following statements

A. Rhizopus reproduces by conidia and ascospores

B. Marchantia has a sporophyte with capsule only

C. Selaginella is a heterosporous pteridophyte

D. Pinus produces the apogeotropic coralloid roots Ans:

Q155 Identify the brown alga from the following list

A. Oedogonium

- B. Vaucheria
- C. Polysiphonia

D. Fucus

Ans:

Q156 Hypogynous flower has

A. A conspicuous thalamus with a disc

B. A superior ovary seated on the thalamus

C. Half superior and half inferior ovary seated on the cup shaped thalamus

D. An inferior ovary

Ans:

Q157 Which one of the following classifications best explains Bentham and Hooker's system?

A. Angiosperms are divided into Gymnospermae and Dicots

B. Polypetalae has – Thalamiflorae Calyciflorae and Monochlamydeae, as series

C. Gamopetalae includes series – Gentianales, Polemoniales, Personales and Lamiales

D. Polypetalae, Gamopetalae and Monochlamydeae are placed phylogenetically Ans:

Q158 Which one of the following states the features of Myxomycetes? A. Sexual reproduction is oogamous; Gametes non flagellate, Zoospores are biflagellate

B. Unicellular or acellular; Pseudopodia present; cilia for locomotion

C. Plasmodium is the somatic phase; holocarpic; sporangia form capillitium

D. A ventral muscular foot; lamellate gills; soft unsegmented body Ans:

Q159 Which one of the following exhibits polymorphism?

A. Halistemma

B. Hydra

C. Obelia

D. Sycon

Ans:

Q160A common endoparasite in the livers of sheep; 25 mm long and 13 mm at the broadest part; flat leaf like body, with two suckers-anterior and posterior. Identify this animal.

- A. Planaria
- B. Schistosoma
- C. Taenia solium
- D. Fasciola

Ans:

Q161 which one among the following is not a true coelomate?

A. Platyhelminthes

B. Nemathelminthes

C. Cindaria

D. Annelida

Ans:

Q162 What are ommatidia?

- A. A part of the mouth part of an insect
- B. Elongate simple eye with a sheath of black pigment
- C. Eyes, labium and labrum
- D. Olfactory organs of an insect

Ans:

Q163 The type of migration in which the fishes living in fresh waters descend to the sea for spawning is termed

- A. macropodus
- B. anadromous
- C. catadromous
- D. Anguilla

Ans:

Q164 Which one of the following is the correct answer for the type of respiration that Frog undertakes?

A. Pulmonary and gills

B. Cutaneous and gills

C. Both pulmonary and cutaneous

D. Pulmonary, cutaneous and buccal

Ans:

Q165 Which one among the following best explains the characteristics of Class Reptilia?

A. Lung breathing, pentadactyle limbs; covered by scales; ventricle is incompletely divided into two; amnion encloses the embryo

B. Poikilothermous; pentadactyle limbs; highly glandular skin; bicondylar skull; three chambered hear; nucleated RBC

C. Aquatic, spindle shaped body, skin with scales and glands, fins present, two chambered heart; nucleated RBC

D. Sebaceous glands in the skin; four limbed; with five or fewer digits; diaphragm present; bicondylar skull; heart four chambered. Ans: Q166 Which one of the following is not a characteristic in the skin of mammals? A. Epidermis is made up of stratum corneum

B. Malpigian layer is composed of living cells and nuclei

C. Epidermis and dermis are derived from ectoderm and mesoderm respecitively

D. Covered by dermal scales forming an exoskeleton; skin highly glandular Ans:

Q167 Polyacrylamide Gel Electrophoresis is used to

A. identify unknown substances and to measure the mass of molecules; their structure, and determine chemical formula

B. separate small nucleic acids of different molecular mass

C. fractionate the components in the mixture of dissolved components through some type of porous matrix

D. study the diffraction pattern produced by a protein crystal Ans:

Q168 Krebs cycle in mitochondria takes place in

A. Outer membrane

B. Cristae

C. Matrix

D. Inner membrane

Ans:

Q169 Which one of the statements is not correct with reference to Michaelis-Mention constant (K_m) of enzyme?

A. It is the substrate concentration at which the reaction attains half of its velocity

B. It is a measure of the affinity of the enzyme for its substrate

C. The higher than K_m the higher is the substrate affinity of the enzyme

D. K_{m} value differs from substrate to substrate

Ans:

Q170 Which one of the following resources can be recycled?

A. Petroleum

B. Coal

C. Iron

D. None of these

Ans:

Q171 Which one among the following is characteristic of T-lymphocytes ?

A. Involved in humoral immunity

B. Acquire immunocompetence in the bone marrow

C. Secrete antibodies against antigens

D. Four types of cells are recognized

Ans :

Q172 Which organelle in an animal cell has the function of digesting larger extracellular and intracellular particles and autolysis ? A. Ribosomes B. Lysosomes C. Peroxysomes D. Glyoxysomes Ans:

Q173 In dogs dark coat colour is dominant over albino: and short hair is dominat over long hair. If these effects are caused by two independently segregating gene pairs, what will be the phenotypes for offsprings expected from a cross of a heterozygous dark short and albino long parents ?

A. 9 dark short : 3 dark long : 3 albino short : 1 albino long

B. 3 dark short : 1 albino long

C. 1 dark short : 1 albino long

D. 1 dark short : 1 dark long : 1 albino short : 1 albino long Ans :

Q174 t-RNA differs from the remaining types inbeing

A. liner and single stranded

B. carries information in its anticodons

C. structural RNA

D. stabilizes m-RNA attachment to ribosome

Ans:

Q175 A lily of Drosophila is trisomic for one of the chromosomes A, B, C and D. Which one among following expressions is correct for this animal? A. AA BB CC DD

B. AA BB CC D C. AA BB CCC DD D. AA BB CCCC DD Ans:

Q176 Which one of the following acts as mutagenic agents?

- A. X-ray
- B. Ultra violet rays
- C. Mustard gas
- D. All the above

Ans:

Q177 In the absence of Lactose, what is expected to happen according to lac operon model?

A. Structural genes transcribe for lactose permease

B. Repressor protein binds to the operator site

C. RNA polymeras interacts with DNA to initiate transcription

D. $\beta\mbox{-}Galactosidase,$ lactose permease and thiogalactoside transacetlylase are synthesized

Ans:

Q178 Which one of the following does not help in regulating Gene expression? A. Transcription

B. TranslationC. Protein degradationD. Protein morphologyAns:

Q179 The Polymerase molecule rapidly slides along the long stretch of DNA. During this sliding it comes across a promoter sequence. Choose the appropriate answer from the following situation to explain the above statement

- A. Bacterial transcription
- B. Yeast transcription
- C. Signal transduction
- D. External stimuli

Ans:

Q180 Which one of the following statements is correct while explaining eukaryotic DNA replication?

- A. It has a single origin of DNA replication
- B. DNA replication takes place during only one phase of the cell cycle
- C. Origin Recognition Complex is not well defined
- D. Telomerase action is not seen

Ans:

Q181 A plant tissue from the hypodermal region of a young dicot stem possesses elongated living cells with uneven thickening at the corners. How do you recognize this tissue?

- A. Parenchyma
- B. Collenchyma
- C. Sclerenchyma
- D. Sclereids

Ans:

Q182 The main constituent of LPG is

- A. methane
- B. butane
- C. ethane

D. none of these Ans:

Q183 Which of the following essential element is not a constituent of any enzyme but stimulate the activity of many enzymes?

- A. Zinc
- B. Potassium
- C. Magnesium
- D. Manganese

Ans:

Q184 Which one of the answer is correct with respect to the acceptor molecule of CO_2 in c_3 and C_4 pathway? Respectively they are

A. Rubisco and PEP
B. Phosphoglycerate and Oxalo Acetate
C. Ribulose biphosphate and Phospoenolpyruvate
D. RUBP and RUBISCO
Ans;

Q185 The enzyme responsible for the reduction of molecular nitrogen to the level of ammonia in leguminous root nodules is

- A. Nitrate reductase
- B. Nitrite reductase
- C. Pyridoxal phosphate
- D. Nitrogenase

Ans:

Q186 Where do the glycolytic pathway, Citric and cycle steps and Electron Transport system take place? Respectively they occur at

A. Grana, stroma and inner membrances of chloroplasts

- B. Mitochondrial outer membrane, matrix and inner membranes
- C. Cytoplasm, mitochondrial matrix and cristae

D. Cytoplasm, Mitochondria and glyoxysomes Ans:

Q187 Plants that flowers under the photoperiods, less than the critical day length are called

- A. Short Day plants
- B. Long Day plants
- C. Day neutrals
- D. Phototropic

Ans:

Q188 Which one among the following is not a correct statement with reference To Spermatogenesis ?

A. It occurs in the seminiferous tubules of the testes

B. Meiotic divisions lead to the formation of four spermatids

C. Only one functional sperm gets matured out of four spermatids

D. Spermatogenesis is closely associated with Sertoli cells Ans :

Q189 What is the function of pancreatic amylase enzyme in the process of digestion ?

- A. Maltose \rightarrow glucose + glucose
- B. Glycogen \rightarrow Maltose
- C. Lactose \rightarrow glucose + galactose
- D. Sucrose \rightarrow glucose + fructose
- Ans :

Q190 What is Broca's area ? A. It is the motor speech area B. Primary visual area located in the occipital lobes

C. Primary somatosensory area

D. Area which interprets the sensation of smell Ans:

Q191 A diet rich in oxalates, lack of adequate water to hold the precipitate material in solution and hyperparathyroidism-may cause

1. Renal failure

2. Nephritis

3. Kidney stone

4. A bacterial infection

Ans:

Q192 Which of the following sequences of blood circulation refers to pulmonary circulation ?

A. Pulmonary venis \rightarrow left atrium \rightarrow left ventricle \rightarrow aorta \rightarrow arteries of different organs \rightarrow venae cavae \rightarrow right atrium

B. Venae cavae \rightarrow Right atrium \rightarrow pulmonary trunk \rightarrow lungs \rightarrow

pulmonary veins \rightarrow left atrium

C. Coronary arteries \rightarrow myocardium \rightarrow coronary sinus \rightarrow right atrium

D. None of the above

Ans:

Q193 Identify the one among the following which does not indicate the correct functioning of hormones of the Adenohypophysis

A. GH stimulates bone and muscle

B. LH stimulates for oestrogen

C. FSH stimulates growth of mammary gland

D. MSH increases pigment synthesis and dispersal Ans:

Q194 Choose the correct statement with reference to human placenta.

A. Allantois and chorion are the maternal components of the placenta

B. Foetal and maternal blood do not mix

C. Foetal chorionic villi will supply blood to the uterus wall

D. Substances cannot be diffused through the choronic villi Ans:

Q195 The following is the correct definition for ecological niche: It is

A. the habit of an organism

B. biotic and abiotic components in an ecosystem

C. the assemblage of all the populations of organisms

D. functional role every organism has in a community

Ans:

Q196 In a population of 10,000 people of a village, 1,500 are born every year and 500 die every year. What is the growth rate of the village?

A. 0.05

B. 0.10

C. 0.15

D. 0.20

Ans:

Q197 What are the main vegetational types found in the West coast of India?

A. Evergreen, deciduous and mangrove

B. Semievergreen, deciduous and montane

C. Evergreen, alpine, deciduous and grasslands

D. Evergreen, semevergreen, deciduous and mangrove Ans:

Q198 The lion tailed monkey Macaca silenus are found only in

- A. Kaziranga
- B. Eastern glass and Chennai
- C. Western ghats including Travancore and Mysore
- D. Western Himalayas

Ans:

Q199 Which one among the following statements best explains biological magnification?

A. Pollutants are accumulated in tissues increasing concentration along the food Chain

B. DDT is a non biodegradable substance which exhibits biological magnification

C. Demand of oxygen increases, as the number of organisms increase in number

D. Heavy accumulation of pollutants in the environment year after year Ans:

Q200 Which one among the following is a challenge for the maintenance of ozone layer?

A. CO₂, Methane and H_2SO_4

- B. CFCs, N_2O and O_2
- C. Nitrogen gases, Carbon compounds and organo chlorides
- D. Co₂, Methane, CFCs and N₂O

Ans: