

National Testing Agency

Question Paper Name :	ICMR Microbiology 14th Sep 2024 Shift 2
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Display Marks:	Yes

Microbiology

Group Number :	1
Group Id :	7495721
Group Maximum Duration :	0
Group Minimum Duration :	120
Show Attended Group? :	No
Edit Attended Group? :	No
Break time :	0
Group Marks :	150

Section A General Aptitude

Section Id :	7495721
Section Number :	1
Section type :	Online
Mandatory or Optional :	Mandatory
Number of Questions :	42
Number of Questions to be attempted :	42
Section Marks :	50
Maximum Instruction Time :	0
Sub-Section Number :	1
Sub-Section Id :	7495721
Question Shuffling Allowed :	No

Question Id : 7495721 Question Type : COMPREHENSION Sub Question Shuffling Allowed : Yes
Group Comprehension Questions : No Question Pattern Type : NonMatrix
Question Numbers : (1 to 5)
Question Label : Comprehension

Read the passage and answer the questions that follow :

The opportunity that beckons India is to make optimal use of technology, management, entrepreneurship and investments to overcome the challenges of this decade and beyond. Yesterday's goals cannot be a benchmark as India contemplates graduating to the company of the developed nations of the world. Our targets must be higher, our coverage more inclusive and above all, the methods to achieve must be unique.

Since, Independence, India as a nation has indeed made massive progress in almost every social and economic field. But, as we strive to have an economically developed nation by 2020, each incremental step opens up new vistas before us. After every few pages, we mark our place in history, heading for a new chapter of challenges not experienced earlier.

Following a steady decline in world income – from about 33 per cent in 0 CE to around 25 per cent in 1600 CE – India's share declined even further during the British Raj, falling sharply from about 16 per cent in 1820 CE, to less than 4 per cent at the time of Independence. Since Independence, there has been a steady rise in income, and the per capita national product has increased by more than five times, from Rs. 5,700 in 1950 to about Rs. 32,000 in 2008, and today, India's share in world income – purchasing power parity (PPP) – stands at about 6.3 per cent. But while the economy has been growing steadily and poverty, as a percentage, declining steadily, the absolute number of people below the poverty line has been constant.

Sub questions

Question Number : 1 Question Id : 7495722 Question Type : MCQ Option Shuffling : No Correct Marks : 1 Wrong Marks : 0.25

According to the passage, use of the phrase "make optimal use of" means :

- (1) set a higher benchmark for growth
- (2) using the methods effectively and efficiently
- (3) experiment with new challenges
- (4) mark our place in history

Options :

1. 1
2. 2
3. 3
4. 4

Question Number : 2 Question Id : 7495723 Question Type : MCQ Option Shuffling : No Correct Marks : 1 Wrong Marks : 0.25

Which word in the given passage means "without interruption"?

- | | |
|----------------|--------------|
| (1) Consistent | (2) Steady |
| (3) Optimal | (4) Constant |

Options :

1. 1
2. 2
3. 3
4. 4

Question Number : 3 Question Id : 7495724 Question Type : MCQ Option Shuffling : No Correct Marks : 1 Wrong Marks : 0.25

What does India need to become a developed nation?

- (A) Take rapid and incremental steps towards progress
- (B) Contemplate on only yesterday's goals
- (C) Make thoughtful usage of technology in various fields
- (D) Work steadily on economic indicators
- (E) Set higher, inclusive and unique targets

Choose the correct answer from the options given below :

- | | |
|------------------------|------------------------|
| (1) (A), (B), (C) only | (2) (B), (D), (E) only |
| (3) (A), (D), (E) only | (4) (C), (D), (E) only |

Options :

1. 1
2. 2
3. 3
4. 4

Question Number : 4 Question Id : 7495725 Question Type : MCQ Option Shuffling : No Correct Marks : 1 Wrong Marks : 0.25

Given below are two statements :

Statement I : Since Independence, there has been a steady rise in income and the increase of per capita national product by five times from ₹ 5,700 in 1947 to about ₹ 32,000 in 2008.

Statement II : Poverty has declined while the economy has grown but the absolute number of people below poverty line has been constant.

In the light of the above statements, choose the most appropriate answer from the options given below :

- (1) Both Statement I and Statement II are correct
- (2) Both Statement I and Statement II are incorrect
- (3) Statement I is correct but Statement II is incorrect
- (4) Statement I is incorrect but Statement II is correct

Options :

- 1. 1
- 2. 2
- 3. 3
- 4. 4

Question Number : 5 Question Id : 7495726 Question Type : MCQ Option Shuffling : No Correct Marks : 1 Wrong Marks : 0.25

Read the given passage and Match List I with List II.

List I (India's share in world GDP)	List II (Year)
(A) 16 percent	(I) 0 CE
(B) 33 percent	(II) 1820 CE
(C) 25 percent	(III) 1947 CE
(D) 4 percent	(IV) 1600 CE

Choose the correct options given below :

- (1) (A)-(I), (B)-(II), (C)-(IV), (D)-(III)
- (2) (A)-(III), (B)-(II), (C)-(I), (D)-(IV)
- (3) (A)-(II), (B)-(I), (C)-(IV), (D)-(III)
- (4) (A)-(IV), (B)-(II), (C)-(III), (D)-(I)

Options :

- 1. 1
- 2. 2
- 3. 3
- 4. 4

Sub-Section Number : 2
Sub-Section Id : 7495722
Question Shuffling Allowed : No

Question Id : 7495727 Question Type : COMPREHENSION Sub Question Shuffling Allowed : Yes Group Comprehension Questions : No Question Pattern Type : NonMatrix Question Numbers : (6 to 10) Question Label : Comprehension

Read the following passage and answer the questions that follow :

Let us discuss coal, another fossil fuel. Even though India has abundant quantities of coal, it is constrained by regional locations, a high ash content that affects the thermal efficiency of our power plants, besides which there are also environmental concerns. Thus, a movement towards energy independence would demand accelerated work in the production of energy from the coal sector through integrated gasification and a combined cycle route.

In 2030, the total energy requirement of the nation is expected to be 4,00,000 MW. By that time, if we were to follow the present route, the power generated from coal-based power plants would increase from the existing 80,000 MW to 2,00,000 MW. This would demand a significant build-up of thermal power stations and a large-scale expansion of coal fields, leading, naturally, to much higher levels of pollution.

The hydel capacity generated through normal water sources and by the interlinking of rivers is expected to contribute an additional 50,000 MW. Numerous large-scale solar energy farms with a capacity of hundreds of megawatts could together contribute around 55,000 MW. The nuclear power plants should have a target of 50,000 MW of power. At least 64,000 MW of electrical power should come from wind energy. The balance 51,000 MW has to be generated through conventional thermal plants, through coal and gas, and renewable sources of energy such as biomass, through burning municipal solid waste and solar thermal power. The most significant aspect, however, is that the power generated through renewable energy technologies has to be increased to 28 per cent from the present 5 per cent.

Sub questions

Question Number : 6 Question Id : 7495728 Question Type : MCQ Option Shuffling : No Correct Marks : 1 Wrong Marks : 0.25

To meet the energy requirements of the nation, the power generation through renewable energy technologies should be :

- (1) increased from 80,000 MW to 4,00,000 MW
- (2) covering the remaining balance of 51,000 MW generated through various modes
- (3) accelerated through integrated gasification and combined cycle route
- (4) increased by 23 percent from the present 5 percent

Options :

- 1. 1
- 2. 2
- 3. 3
- 4. 4

Question Number : 7 Question Id : 7495729 Question Type : MCQ Option Shuffling : No Correct Marks : 1 Wrong Marks : 0.25

Which word in the passage is the antonym of "rare"?

- | | |
|-----------------|----------------|
| (1) existing | (2) numerous |
| (3) significant | (4) additional |

Options :

- 1. 1
- 2. 2
- 3. 3
- 4. 4

Question Number : 8 Question Id : 74957210 Question Type : MCQ Option Shuffling : No Correct Marks : 1 Wrong Marks : 0.25

Which of the following factor(s) are a reason behind the constrained utilization of coal as a fuel for generating energy?

- (A) low thermal efficiency of our power plants
- (B) regional locations
- (C) lack of integrated gasification
- (D) high ash content
- (E) environmental concerns

Choose the correct answer from the options given below :

- (1) (A), (B), (C) only
- (2) (B), (C), (D) only
- (3) (B), (D), (E) only
- (4) (B), (D), (A) only

Options :

- 1. 1
- 2. 2
- 3. 3
- 4. 4

Question Number : 9 Question Id : 74957211 Question Type : MCQ Option Shuffling : No Correct Marks : 1 Wrong Marks : 0.25

Given below are two statements that are based on the passage mentioned above :

Statement I : To meet the expected energy requirements in 2030, the power generation through renewable energy technologies has to be increased by percent.

Statement II : The balance 51,000 MW will be generated through conventional thermal plants.

In the light of the above statements, choose the most appropriate answer from the options given below :

- (1) Both Statement I and Statement II are correct
- (2) Both Statement I and Statement II are incorrect
- (3) Statement I is correct but Statement II is incorrect
- (4) Statement I is incorrect but Statement II is correct

Options :

- 1. 1
- 2. 2
- 3. 3
- 4. 4

Question Number : 10 Question Id : 74957212 Question Type : MCQ Option Shuffling : No Correct Marks : 1 Wrong Marks : 0.25

Match List I with List II on the basis of the passage mentioned above :

List I (Power)	List II (Energy Source)
(A) 50,000 MW	(I) Wind energy
(B) 55,000 MW	(II) Thermal energy
(C) 51,000 MW	(III) Hydel energy
(D) 64,000 MW	(IV) Solar energy

Choose the correct options given below :

- (1) (A)-(I), (B)-(III), (C)-(IV), (D)-(II)
- (2) (A)-(II), (B)-(III), (C)-(IV), (D)-(I)
- (3) (A)-(III), (B)-(II), (C)-(IV), (D)-(I)
- (4) (A)-(III), (B)-(IV), (C)-(II), (D)-(I)

Options :

- 1. 1
- 2. 2
- 3. 3

4. 4

Sub-Section Number : 3
Sub-Section Id : 7495723
Question Shuffling Allowed : Yes

Question Number : 11 Question Id : 74957213 Question Type : MCQ Option Shuffling : No
Correct Marks : 1 Wrong Marks : 0.25

If it was Saturday on 17th December, 2002, what was the day on 26th December 2004?

- (1) Monday
- (2) Sunday
- (3) Tuesday
- (4) Thursday

Options :

1. 1
2. 2
3. 3
4. 4

Question Number : 12 Question Id : 74957214 Question Type : MCQ Option Shuffling : No
Correct Marks : 1 Wrong Marks : 0.25

Study the given pattern and select the number that can replace question mark in the given matrix :

11	103	9
13	157	6
15	?	7

- (1) 175
- (2) 196
- (3) 211
- (4) 225

Options :

1. 1
2. 2
3. 3
4. 4

Question Number : 13 Question Id : 74957215 Question Type : MCQ Option Shuffling : No
Correct Marks : 1 Wrong Marks : 0.25

If in a certain code language 'FRIEND' is written as 'JPMCRB', 'UNCLE' is written as 'YLGJI', then what will be the code for 'LEADER'?

- | | |
|------------|------------|
| (1) QCDBIP | (2) PDFBDL |
| (3) PCEBIP | (4) RBFCNR |

Options :

1. 1
2. 2
3. 3
4. 4

Question Number : 14 Question Id : 74957216 Question Type : MCQ Option Shuffling : No Correct Marks : 1 Wrong Marks : 0.25

Find the missing number from the given alternatives.

$$\begin{array}{c} 9 \\ 5 \quad \textcircled{61} \quad 3 \\ 6 \end{array}$$

$$\begin{array}{c} 8 \\ 4 \quad \textcircled{?} \quad 2 \\ 3 \end{array}$$

$$\begin{array}{c} 11 \\ 3 \quad \textcircled{125} \quad 1 \\ 2 \end{array}$$

- | | |
|--------|--------|
| (1) 41 | (2) 56 |
| (3) 67 | (4) 79 |

Options :

1. 1
2. 2
3. 3
4. 4

Question Number : 15 Question Id : 74957217 Question Type : MCQ Option Shuffling : No Correct Marks : 1 Wrong Marks : 0.25

If, $P \times Q$ means P is the husband of Q.

$P + Q$ means P is the father of Q.

$P - Q$ means P is the mother of Q.

$P \div Q$ means P is the sister of Q.

Then, which of the following relations shows that C is the paternal grandfather of D?

(1) $C \times B - E \div D + A$

(2) $C + A \times B \div E \div D$

(3) $C + B \times A - E \div D$

(4) $C \times B \div E + A - D$

Options :

1. 1
2. 2
3. 3
4. 4

Question Number : 16 Question Id : 74957218 Question Type : MCQ Option Shuffling : No Correct Marks : 1 Wrong Marks : 0.25

In this question a number series is given. Choose the correct alternative that will continue the same pattern and replace the question mark in the given series.

856, 849, 824, 763, ?, 431

(1) 681

(2) 642

(3) 535

(4) 495

Options :

1. 1
2. 2
3. 3
4. 4

Question Number : 17 Question Id : 74957219 Question Type : MCQ Option Shuffling : No Correct Marks : 1 Wrong Marks : 0.25

Sunita starts from her home towards North. After walking 15 meters, she turned to her right and walked 55 meters. Then she turned to her left and after walking a distance of 20 meters turned to her left again and walked 67 meters. What is the shortest distance between her home and final position and what is the direction of final position with respect to her home?

(1) 26 m, North-West

(2) 35 m, North-East

(3) 37 m, North-West

(4) 49 m, North-East

Options :

- 1. 1
- 2. 2
- 3. 3
- 4. 4

Question Number : 18 Question Id : 74957220 Question Type : MCQ Option Shuffling : No Correct Marks : 1 Wrong Marks : 0.25

Seven friends A, B, C, D, E, F and G are sitting on a straight bench all facing north. There are exactly three friends sitting between A and B. D is sitting to the left of B. Only one friend is sitting to the left of A. B is sitting immediately left of F. Only one friend is sitting between D and A. Who is sitting at the extreme right end?

- | | |
|-------|-------|
| (1) E | (2) F |
| (3) C | (4) D |

Options :

- 1. 1
- 2. 2
- 3. 3
- 4. 4

Question Number : 19 Question Id : 74957221 Question Type : MCQ Option Shuffling : No Correct Marks : 1 Wrong Marks : 0.25

Select the option that is related to the third term in the same way as the second term is related to the first term and the sixth term is related to the fifth term.

BSNT : YXGC :: MXRV : ? :: FPCY : CUVH

- | | |
|----------|----------|
| (1) JDKE | (2) JCKD |
| (3) JCKE | (4) JCLE |

Options :

- 1. 1
- 2. 2
- 3. 3
- 4. 4

Question Number : 20 Question Id : 74957222 Question Type : MCQ Option Shuffling : No Correct Marks : 1 Wrong Marks : 0.25

A cube is painted black on two adjacent faces and on one apposite face, yellow on two apposite faces and green on the remaining face. It is then cut into 64 equal cubes. How many cubes have one black coloured face only?

- | | |
|--------|--------|
| (1) 12 | (2) 24 |
| (3) 16 | (4) 8 |

Options :

1. 1
2. 2
3. 3
4. 4

Question Number : 21 Question Id : 74957223 Question Type : MCQ Option Shuffling : No Correct Marks : 1 Wrong Marks : 0.25

In the given question, two statements are given followed by two conclusions numbered I and II. You have to take the given statements to be true even if they seem to be at variance from the commonly known facts and then decide which of the given conclusions logically follows from the given statements disregarding commonly known facts.

Statements : All Hammers are pliers. All screws are pliers.

Conclusions I : Some hammers are screws.

II : Some screws are hammers is a possibility.

- (1) Both Conclusions I and II follow
- (2) Both Conclusions I and II do not follow
- (3) Conclusion I follows but conclusion II does not follow
- (4) Conclusion I does not follow but conclusion II follows

Options :

1. 1
2. 2
3. 3
4. 4

Question Number : 22 Question Id : 74957224 Question Type : MCQ Option Shuffling : No Correct Marks : 1 Wrong Marks : 0.25

In this question there is a statement followed by two assumptions numbered I and II. You have to consider the statement and the following assumptions and decide which of the assumption(s) is/are implicit in the statement.

Statement : Rohan always studies from the reference books of publication X for his competitive exams.

Assumptions I : Many of the questions asked in competitive exams are from the reference books of publication X.

II : Studying from reference books are necessary for competitive exams.

- (1) Only Assumption I is implicit
- (2) Only Assumption II is implicit
- (3) Neither assumption I nor II is implicit
- (4) Both assumptions I and II are implicit

Options :

- 1. 1
- 2. 2
- 3. 3
- 4. 4

Question Number : 23 Question Id : 74957225 Question Type : MCQ Option Shuffling : No Correct Marks : 1 Wrong Marks : 0.25

Following table provides the marks obtained by four friends in five different subjects. Maximum marks in each subject are 100.

Friends	Physics	Chemistry	Mathematics	English	Physical Education
Rahul	89	92	79	81	90
Vinay	75	96	85	86	92
Abeer	94	90	89	77	90
Sudesh	93	91	84	86	92

Who has scored exactly 88% marks in total?

- (1) Rahul
- (2) Vinay
- (3) Abeer
- (4) Sudesh

Options :

- 1. 1
- 2. 2
- 3. 3
- 4. 4

Question Number : 24 Question Id : 74957226 Question Type : MCQ Option Shuffling : No Correct Marks : 1 Wrong Marks : 0.25

In this question there is a statement, followed by two courses of action numbered I and II. You have to assume everything in the statement to be true and on the basis of the information given in the statement, decide which of the suggested courses of action logically follow(s) for pursuing.

Statement : A large number of people got ill due to eating cut fruits from road side shops.

Courses of Action I. Municipal corporation should penalize the road side vendors if they sell cut fruits.

II. People should be made aware about the dangers of eating cut fruits sold in open.

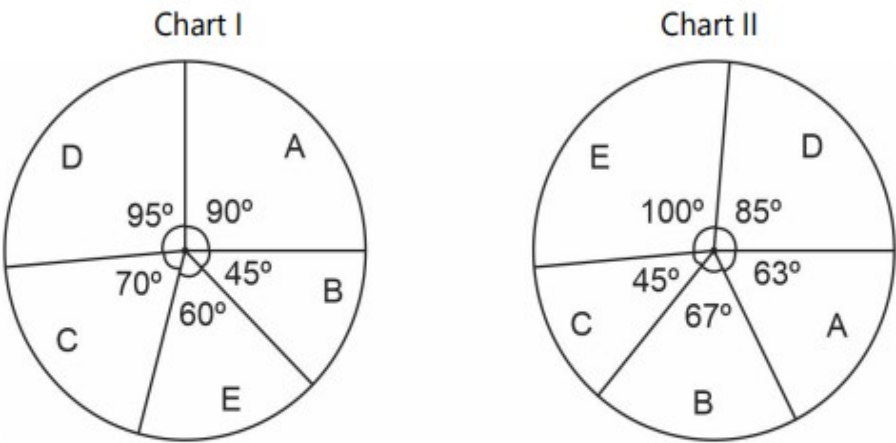
- (1) Only I follows
- (2) Only II follows
- (3) Neither I nor II follows
- (4) Both I and II follow

Options :

- 1. 1
- 2. 2
- 3. 3
- 4. 4

Question Number : 25 Question Id : 74957227 Question Type : MCQ Option Shuffling : No Correct Marks : 1 Wrong Marks : 0.25

The following pie chart show the distribution of students appearing in the Board examination (Chart I) and the students who have passed the Board examination (Chart II) from the different schools A, B, C, D and E.



Total number of students appeared = 1800

Which school has the lowest percentage of students passed with respect to those appeared?

- (1)

A
- (2)

B
- (3)

C
- (4)

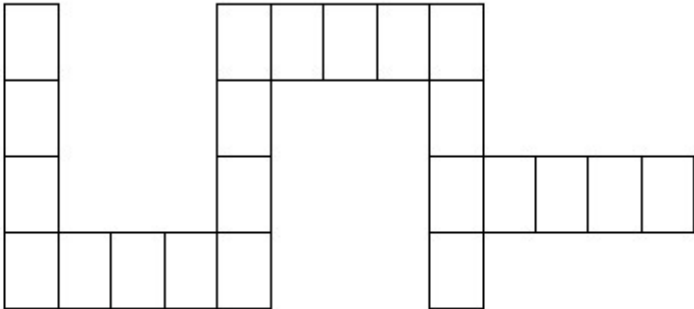
D

Options :

1. 1
2. 2
3. 3
4. 4

Question Number : 26 Question Id : 74957228 Question Type : MCQ Option Shuffling : No Correct Marks : 1 Wrong Marks : 0.25

How many rectangles are there in the given figure?



- (1)

65
- (2)

70
- (3)

75
- (4)

80

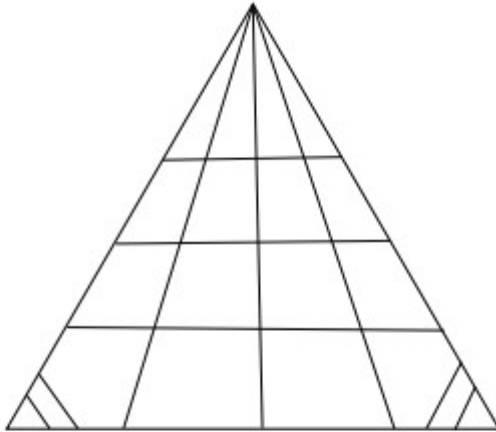
Options :

1. 1

- 2. 2
- 3. 3
- 4. 4

Question Number : 27 Question Id : 74957229 Question Type : MCQ Option Shuffling : No Correct Marks : 1 Wrong Marks : 0.25

How many triangles are there in the given figure?



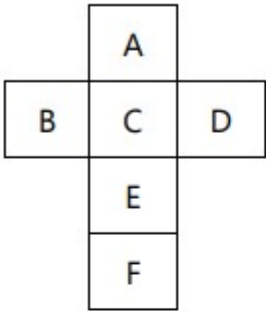
- | | |
|--------|--------|
| (1) 26 | (2) 34 |
| (3) 44 | (4) 46 |

Options :

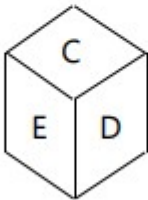
- 1. 1
- 2. 2
- 3. 3
- 4. 4

Question Number : 28 Question Id : 74957230 Question Type : MCQ Option Shuffling : No Correct Marks : 1 Wrong Marks : 0.25

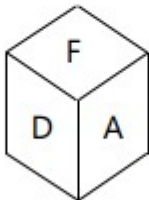
Select the box that cannot be formed by folding the given unfolded box.



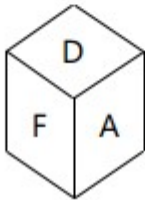
(1)



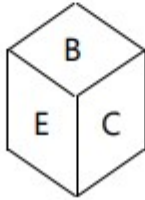
(2)



(3)



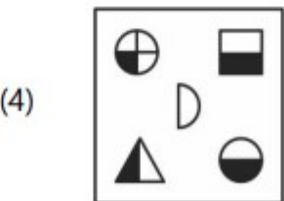
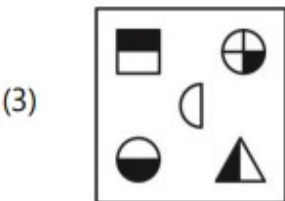
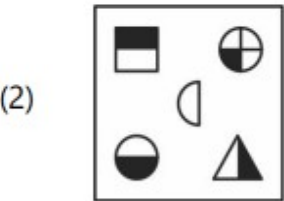
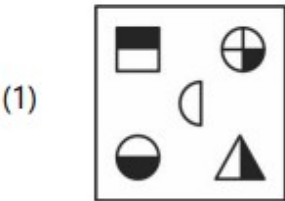
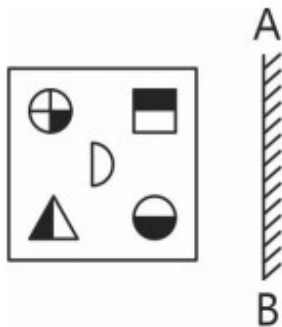
(4)



Options :

- 1. 1
- 2. 2
- 3. 3
- 4. 4

Choose the correct mirror image of the given figure when the mirror is placed at line AB.

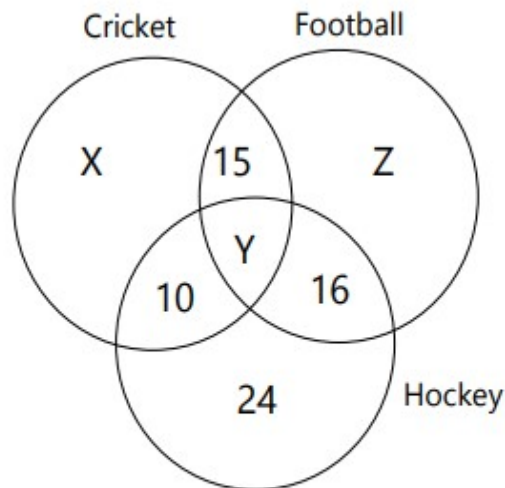


Options :

- 1. 1
- 2. 2
- 3. 3
- 4. 4

Question Number : 30 Question Id : 74957232 Question Type : MCQ Option Shuffling : No Correct Marks : 1 Wrong Marks : 0.25

Study the Venn diagram and answer the question. The alphabets and numbers in different sections indicate the number of persons who play different games in a school.



If the total number of persons who play games in the school is 108 and the number of persons who play at least two games is 54, find the number of persons who play all the three games.

- | | |
|--------|--------|
| (1) 11 | (2) 13 |
| (3) 19 | (4) 21 |

Options :

- 1. 1
- 2. 2
- 3. 3
- 4. 4

Question Number : 31 Question Id : 74957233 Question Type : MCQ Option Shuffling : No Correct Marks : 1 Wrong Marks : 0.25

If 'AMAN' is written as 'CLCM' in a certain code then in the same code 'ARUN' is written as

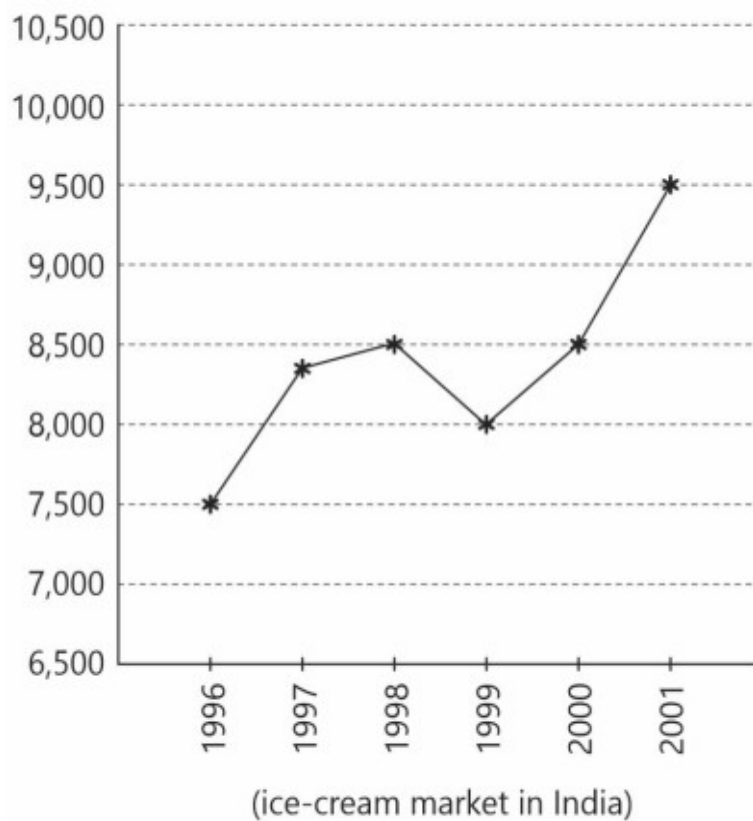
- | | |
|----------|----------|
| (1) CQWO | (2) CQVM |
| (3) CPWM | (4) CQWM |

Options :

- 1. 1
- 2. 2
- 3. 3
- 4. 4

Question Number : 32 Question Id : 74957234 Question Type : MCQ Option Shuffling : No Correct Marks : 1 Wrong Marks : 0.25

Direction : Refer the chart below and answer the question. What is annual average rate of increase in the ice-cream market from 1996 to 2001?



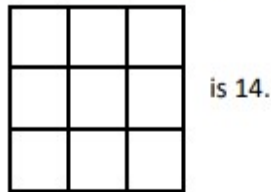
- | | |
|-----------|------------|
| (1) 5.33% | (2) 26.67% |
| (3) 6.67% | (4) 10% |

Options :

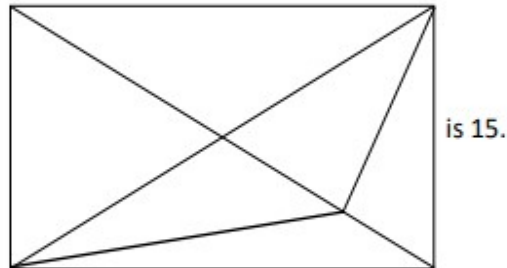
1. 1
2. 2
3. 3
4. 4

Question Number : 33 Question Id : 74957235 Question Type : MCQ Option Shuffling : No Correct Marks : 1 Wrong Marks : 0.25

Statement I : The number of squares in the figure.



Statement II : The number of triangles in the figure.



In the light of the above statements, choose the correct answer from the options given below :

- (1) Both Statement I and Statement II are true
- (2) Both Statement I and Statement II are false
- (3) Statement I is true but statement II is false
- (4) Statement I is false but statement II is true

Options :

- 1. 1
- 2. 2
- 3. 3
- 4. 4

Question Number : 34 Question Id : 74957236 Question Type : MCQ Option Shuffling : No Correct Marks : 1 Wrong Marks : 0.25

Statement I : The mirror-image of U T Z F Y 6 K H is H K Ø Y J Σ T U.

Statement II : The water-image of D 6 Z 7 F 4 is D Ø Σ Δ E ¶.

In the light of above statements, choose the correct answer from the options given below :

- (1) Both Statement I and Statement II are true
- (2) Both Statement I and Statement II are false
- (3) Statement I is true but statement II is false
- (4) Statement I is false but statement II is true

Options :

- 1. 1

2. 2
3. 3
4. 4

Question Number : 35 Question Id : 74957237 Question Type : MCQ Option Shuffling : No Correct Marks : 1 Wrong Marks : 0.25

If '–' means '÷' means '+' means '×', '÷' means '–', '×' means '+', then which of the following equations is correct?

- (1) $52 \div 4 + 5 \times 8 - 2 = 36$
- (2) $43 \times 7 \div 5 + 4 - 8 = 25$
- (3) $36 \times 4 - 12 + 5 \div 3 = 420$
- (4) $36 - 12 \times 6 \div 3 + 4 = 60$

Options :

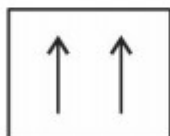
1. 1
2. 2
3. 3
4. 4

Question Number : 36 Question Id : 74957238 Question Type : MCQ Option Shuffling : No Correct Marks : 1 Wrong Marks : 0.25

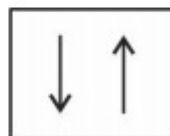
Complete the figure matrix.

↑ ↑	↑ ↓	↓ ↑
↑ →	↑ ←	↓ →
↑ ↓	?	↓ ↓

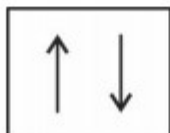
(1)



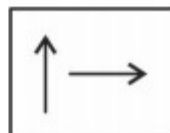
(2)



(3)



(4)



Options :

- 1. 1
- 2. 2
- 3. 3
- 4. 4

Question Number : 37 Question Id : 74957239 Question Type : MCQ Option Shuffling : No Correct Marks : 1 Wrong Marks : 0.25

A cube whose two adjacent faces are coloured is cut into 64 identical small cubes.
How many of these small cubes are not coloured at all?

- | | |
|--------|--------|
| (1) 60 | (2) 48 |
| (3) 36 | (4) 32 |

Options :

- 1. 1
- 2. 2
- 3. 3
- 4. 4

Question Number : 38 Question Id : 74957240 Question Type : MCQ Option Shuffling : No Correct Marks : 1 Wrong Marks : 0.25

A dealer marks his goods at 20% above the cost price and allows a discount of 16% on the marked price. What is his gain percentage?

- | | |
|----------|-----------|
| (1) 1% | (2) 2% |
| (3) 0.8% | (4) 0.08% |

Options :

- 1. 1
- 2. 2
- 3. 3
- 4. 4

Question Number : 39 Question Id : 74957241 Question Type : MCQ Option Shuffling : No Correct Marks : 1 Wrong Marks : 0.25

If $2a = 3b = 4c = 6d$, then value of $\frac{a^2 + b^2}{c^2 + d^2}$, is :

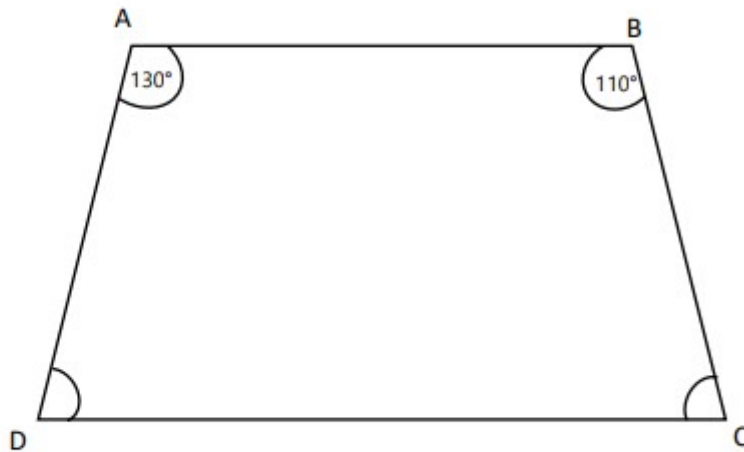
- | | |
|-------------------|-------------------|
| (1) $\frac{2}{3}$ | (2) 4 |
| (3) $\frac{1}{6}$ | (4) $\frac{7}{3}$ |

Options :

1. 1
2. 2
3. 3
4. 4

Question Number : 40 Question Id : 74957242 Question Type : MCQ Option Shuffling : No Correct Marks : 1 Wrong Marks : 0.25

In trapezium $ABCD$, in which $AB \parallel DC$,



$\angle A = 130^\circ$ and $\angle B = 110^\circ$. What is the value of $\angle C - \angle D$?

- | | |
|-----------------|----------------|
| (1) 10° | (2) 20° |
| (3) -20° | (4) 40° |

Options :

1. 1
2. 2
3. 3
4. 4

Question Number : 41 Question Id : 74957243 Question Type : MCQ Option Shuffling : No Correct Marks : 1 Wrong Marks : 0.25

In a town, 65% people watched the news on television, 40% read a newspaper and 25% read a newspaper and watched the news on television also. What percent of the people neither watched the news on television nor read a newspaper?

- | | |
|--------|--------|
| (1) 10 | (2) 14 |
| (3) 16 | (4) 20 |

Options :

1. 1
2. 2
3. 3

4. 4

Question Number : 42 Question Id : 74957244 Question Type : MCQ Option Shuffling : No Correct Marks : 1 Wrong Marks : 0.25

- (A) The missing term of the series
4, 8, 28, 80, 244, ? , is 728.
- (B) The missing term of the alphabet series
UPI, SHJ, ODP, MBQ, ? is IAV.
- (C) The missing term of the letter – number series
Q1F, S2E, U6D, W21C, ? is Y88B.
- (D) The missing term of the letter – number series
D–4, F–6, H–8, J–10, ? is L–22

Choose the correct answer from the options given below :

- (1) (A) and (C) only
- (2) (A), (B) and (C) only
- (3) (B), (C) and (D) only
- (4) (B) and (D) only

Options :

- 1. 1
- 2. 2
- 3. 3
- 4. 4

Question Number : 43 Question Id : 74957245 Question Type : MCQ Option Shuffling : No Correct Marks : 1 Wrong Marks : 0.25

The ratio of the ages of man and his wife is 4 : 3. After 4 years, this ratio will be 9 : 7. If at the time of their marriage, the ratio of their ages was 5 : 3, then how many years ago were they married?

- | | |
|--------|--------|
| (1) 8 | (2) 10 |
| (3) 12 | (4) 15 |

Options :

- 1. 1
- 2. 2
- 3. 3
- 4. 4

Question Number : 44 Question Id : 74957246 Question Type : MCQ Option Shuffling : No

Correct Marks : 1 Wrong Marks : 0.25

Read the following information and answer the question :

Alka is older than Mala. Gopal is older than Mala but younger than Alka. Kapil is younger than Ram and Mala. Mala is older than Ram.

- (A) Mala's age is between Gopal and Ram.
- (B) Gopal age is between Mala and Kapil.
- (C) Mala lies in the middle.
- (D) Alka is the youngest.
- (E) Kapil is the eldest.

Choose the correct answer from the options given below :

- (1) (C) and (E) only
- (2) (B), (D) and (E) only
- (3) (A), (C) and (D) only
- (4) (A) and (C) only

Options :

- 1. 1
- 2. 2
- 3. 3
- 4. 4

Question Number : 45 Question Id : 74957247 Question Type : MCQ Option Shuffling : No Correct Marks : 1 Wrong Marks : 0.25

Direction : Study the table carefully and answer the question :

Number of washing machines and refrigerators manufactured by a company.

	2005	2006	2007	2008	2009
Washing machine	14400	20500	12800	16400	18600
Refrigerator	12800	24700	19200	20200	14900

Find, what was the difference in the total number of washing machines and refrigerators manufactured in 2006 to the total number of washing machines and refrigerators manufactured in 2008?

- (1) 6,800
- (2) 5,600
- (3) 8,600
- (4) 8,200

Options :

- 1. 1
- 2. 2

3. 3

4. 4

Question Number : 46 Question Id : 74957248 Question Type : MCQ Option Shuffling : No Correct Marks : 1 Wrong Marks : 0.25

Given below are two statements :

Statement I : A compound interest on a certain sum for 2 years at 10% per annum is ₹ 525. The simple interest on the same sum for double the time at half the rate percent per annum is ₹ 500.

Statement II : The respective ratio of milk and water in the mixture is 4 : 3. If 6 litres of water is added to this mixture, the respective ratio of milk and water becomes 8 : 7, then the quantity of milk in the original mixture is 24 litres.

In the light of the above statements, choose the most appropriate answer from the options :

- (1) Both Statement I and Statement II are correct
- (2) Both Statement I and Statement II are incorrect
- (3) Statement I is correct but statement II is incorrect
- (4) Statement I is incorrect but statement II is correct

Options :

1. 1

2. 2

3. 3

4. 4

Question Number : 47 Question Id : 74957249 Question Type : MCQ Option Shuffling : No Correct Marks : 1 Wrong Marks : 0.25

If $x + \frac{1}{x} = 10$, then what is the value of $\left(x^2 - \frac{1}{x^2}\right)^2$?

- | | |
|-----------|-----------|
| (1) 9,600 | (2) 9,604 |
| (3) 9,608 | (4) 9,610 |

Options :

1. 1

2. 2

3. 3

4. 4

Question Number : 48 Question Id : 74957250 Question Type : MCQ Option Shuffling : No

Correct Marks : 1 Wrong Marks : 0.25

A sector of a circle of radius 6 cm is formed with central angle 60° . What will be its area (in cm^2)? (Here ' π ' refers to $\frac{22}{7}$)

(1) $\frac{3}{4}\pi$

(2) $\frac{5}{4}\pi$

(3) 6π

(4) 12π

Options :

1. 1
2. 2
3. 3
4. 4

Question Number : 49 Question Id : 74957251 Question Type : MCQ Option Shuffling : No

Correct Marks : 1 Wrong Marks : 0.25

How many four digit numbers can be formed by using the digits 0, 1, 3, 7 if repetition of digits are allowed?

(1) 160

(2) 500

(3) 2400

(4) 2500

Options :

1. 1
2. 2
3. 3
4. 4

Question Number : 50 Question Id : 74957252 Question Type : MCQ Option Shuffling : No

Correct Marks : 1 Wrong Marks : 0.25

What is the difference between simple interest and compound interest on sum ₹ 10,000 at the rate of 10% per annum for the period of two years?

(1) ₹ 110

(2) ₹ 100

(3) ₹ 150

(4) ₹ 160

Options :

1. 1
2. 2
3. 3
4. 4

Section B Cross Disciplinary

Section Id :	7495722
Section Number :	2
Section type :	Online
Mandatory or Optional :	Mandatory
Number of Questions :	50
Number of Questions to be attempted :	50
Section Marks :	50
Maximum Instruction Time :	0
Sub-Section Number :	1
Sub-Section Id :	7495724
Question Shuffling Allowed :	Yes

Question Number : 51 Question Id : 74957253 Question Type : MCQ Option Shuffling : No Correct Marks : 1 Wrong Marks : 0.25

A short microtubular organelle projecting into extra cellular medium used for locomotion

- | | |
|------------------|----------------|
| (1) Cisternae | (2) Cilium |
| (3) Pesudopodium | (4) Basal Body |

Options :

1. 1
2. 2
3. 3
4. 4

Question Number : 52 Question Id : 74957254 Question Type : MCQ Option Shuffling : No Correct Marks : 1 Wrong Marks : 0.25

Organelle that is involved in carbohydrate digestion, autophagy, hydrolysis etc.

- | | |
|----------------|------------------|
| (1) Golgi body | (2) Nucleus |
| (3) Lysosome | (4) Mitochondria |

Options :

1. 1
2. 2
3. 3
4. 4

Question Number : 53 Question Id : 74957255 Question Type : MCQ Option Shuffling : No Correct Marks : 1 Wrong Marks : 0.25

Microtubular protein having ATPase activity and required for movement

- | | |
|--------------|-----------------|
| (1) Ecdysone | (2) Fibronectin |
| (3) Dynein | (4) Sarcopin |

Options :

- 1. 1
- 2. 2
- 3. 3
- 4. 4

Question Number : 54 Question Id : 74957256 Question Type : MCQ Option Shuffling : No Correct Marks : 1 Wrong Marks : 0.25

Which of the following principle of bioethics emphasizes the importance of minimizing harm and maximizing benefits in health care decisions?

- | | |
|-----------------|---------------------|
| (1) Justice | (2) Autonomy |
| (3) Beneficence | (4) Non-maleficence |

Options :

- 1. 1
- 2. 2
- 3. 3
- 4. 4

Question Number : 55 Question Id : 74957257 Question Type : MCQ Option Shuffling : No Correct Marks : 1 Wrong Marks : 0.25

Which of the following ethical principle supports the idea that health care resources should be distributed fairly among individuals and communities?

- | | |
|---------------------|----------------------|
| (1) Confidentiality | (2) Informed consent |
| (3) Justice | (4) Beneficence |

Options :

- 1. 1
- 2. 2
- 3. 3
- 4. 4

Question Number : 56 Question Id : 74957258 Question Type : MCQ Option Shuffling : No Correct Marks : 1 Wrong Marks : 0.25

Match List I with List II.

List I	List II
(A) Released by anterior pituitary and affects the adrenal gland	(I) FSH
(B) Influences extracellular fluid volume	(II) Oxytocin
(C) Stimulates estrogen secretion and egg maturation in females	(III) ADH
(D) Causes uterine contractions during child birth	(IV) ACTH

Choose the correct options given below :

- (1) (A)-(II), (B)-(IV), (C)-(III), (D)-(I)
- (2) (A)-(IV), (B)-(I), (C)-(II), (D)-(III)
- (3) (A)-(III), (B)-(IV), (C)-(II), (D)-(I)
- (4) (A)-(IV), (B)-(III), (C)-(I), (D)-(II)

Options :

1. 1
2. 2
3. 3
4. 4

Question Number : 57 Question Id : 74957259 Question Type : MCQ Option Shuffling : No Correct Marks : 1 Wrong Marks : 0.25

Given below are two statements :

Statement I : An endocrine gland releases substances through tubes or ducts.

Statement II : An exocrine gland releases substances it makes directly into the fluid bathing the glands.

In the light of the above statements, choose the correct answer from the options given below :

- (1) Both Statement I and Statement II are true
- (2) Both Statement I and Statement II are false
- (3) Statement I is true but statement II is false
- (4) Statement I is false but statement II is true

Options :

1. 1
2. 2

3. 3

4. 4

Question Number : 58 Question Id : 74957260 Question Type : MCQ Option Shuffling : No Correct Marks : 1 Wrong Marks : 0.25

Match List I with List II.

List I	List II
(A) Mechanoreceptor	(I) Detects change in water volume of a solution
(B) Nociceptor	(II) Responds to heat or cold
(C) Osmoreceptor	(III) Detects tissue damage
(D) Thermoreceptor	(IV) Detects changes in pressure, position or acceleration

Choose the correct answer from the options given below :

- (1) (A)-(IV), (B)-(I), (C)-(II), (D)-(III)
- (2) (A)-(III), (B)-(IV), (C)-(II), (D)-(I)
- (3) (A)-(II), (B)-(I), (C)-(IV), (D)-(III)
- (4) (A)-(IV), (B)-(III), (C)-(I), (D)-(II)

Options :

1. 1

2. 2

3. 3

4. 4

Question Number : 59 Question Id : 74957261 Question Type : MCQ Option Shuffling : No Correct Marks : 1 Wrong Marks : 0.25

Which of the following connective tissues has a matrix of collagen and elastin fibres in a rubbery ground substance?

- | | |
|---------------|-----------|
| (1) Adipose | (2) Bone |
| (3) Cartilage | (4) Blood |

Options :

1. 1

2. 2

3. 3

4. 4

Question Number : 60 Question Id : 74957262 Question Type : MCQ Option Shuffling : No Correct Marks : 1 Wrong Marks : 0.25

All of the following acts as anaphylotoxins EXCEPT

- | | |
|---------|---------|
| (1) C3a | (2) C4a |
| (3) C5a | (4) C6a |

Options :

1. 1
2. 2
3. 3
4. 4

Question Number : 61 Question Id : 74957263 Question Type : MCQ Option Shuffling : No Correct Marks : 1 Wrong Marks : 0.25

The mechanism by which B cells ensure that only one heavy and one light chain allele is translated is referred to as

- | | |
|------------------------|-------------------------|
| (1) Co-dominance | (2) Allelic exclusion |
| (3) Isotypic selection | (4) Idiotypic selection |

Options :

1. 1
2. 2
3. 3
4. 4

Question Number : 62 Question Id : 74957264 Question Type : MCQ Option Shuffling : No Correct Marks : 1 Wrong Marks : 0.25

Given below are two statements regarding Major Histocompatibility Complex (MHC).

Statement I : MHC I contains two different polypeptide chains – α chain and β chain.

Statement II : MHC I is present on all nucleated cells.

In the light of the above two statements, select the most appropriate answer from the options given below :

- (1) Both Statement I and Statement II are correct
- (2) Statement I is correct but Statement II is incorrect
- (3) Statement I is not correct but Statement II is correct
- (4) Both Statement I and Statement II are not correct

Options :

1. 1
2. 2
3. 3
4. 4

Question Number : 63 Question Id : 74957265 Question Type : MCQ Option Shuffling : No Correct Marks : 1 Wrong Marks : 0.25

The function of the 3' to 5' exonuclease activity of a DNA polymerase is to :

- (1) Remove the 5' end of the polynucleotide strand that is attached to the template strand that is being copied
- (2) Remove incorrect nucleotides from the newly synthesized strand of DNA
- (3) Remove damaged nucleotide from the template strand during DNA synthesis
- (4) Remove nucleotides from the ends of DNA molecules to ensure the generation of blunt ends

Options :

1. 1
2. 2
3. 3
4. 4

Question Number : 64 Question Id : 74957266 Question Type : MCQ Option Shuffling : No Correct Marks : 1 Wrong Marks : 0.25

Identify which of the following tests is the most convincing to identify a gene as oncogene or tumor suppressor gene.

- (1) Transgenic mice overexpressing the candidate oncogene and knock-out mice lacking the candidate tumor suppressor gene
- (2) Transgenic mice overexpressing the candidate tumor suppressor gene and knock-out mice lacking the candidate oncogene
- (3) Transgenic mice that overexpresses the candidate oncogene and tumor suppressor gene
- (4) Knockout mice that lacks the candidate oncogene and tumor suppressor gene

Options :

1. 1
2. 2
3. 3
4. 4

Question Number : 65 Question Id : 74957267 Question Type : MCQ Option Shuffling : No
Correct Marks : 1 Wrong Marks : 0.25

A study is done on a mammalian cell line that has a doubling time of 24 hours. These cells are synchronized in G1 and then labeled for 2 days with BrdU (an analog of thymidine). At the end of labeling period, chromosomal DNA is isolated from the cells and its density analyzed by equilibrium centrifugation in cesium chloride gradients. Which of the following patterns would be expected to be seen? (H = heavy, L = light)

- | | |
|-----------------------|----------------------|
| (1) 100% H/H | (2) 100% H/L |
| (3) 50%, H/H, 50% H/L | (4) 50% H/H, 50% L/L |

Options :

1. 1
2. 2
3. 3
4. 4

Question Number : 66 Question Id : 74957268 Question Type : MCQ Option Shuffling : No
Correct Marks : 1 Wrong Marks : 0.25

Identify the correct order in which extra-cellular signals are transmitted.

- (A) Adenylate cyclase
- (B) cAMP
- (C) Protein kinase A

Choose the correct answer from the options given below :

- | | |
|-------------------|-------------------|
| (1) (A), (B), (C) | (2) (C), (B), (A) |
| (3) (A), (C), (B) | (4) (B), (C), (A) |

Options :

1. 1
2. 2
3. 3
4. 4

Question Number : 67 Question Id : 74957269 Question Type : MCQ Option Shuffling : No
Correct Marks : 1 Wrong Marks : 0.25

Which of the following is not a function of the lysosomes?

- (1) Engulf worn-out components of the cells
- (2) Engulf exogeneous substances
- (3) Suicidal bags
- (4) Power generating units

Options :

- 1. 1
- 2. 2
- 3. 3
- 4. 4

Question Number : 68 Question Id : 74957270 Question Type : MCQ Option Shuffling : No Correct Marks : 1 Wrong Marks : 0.25

Given below are two statements :

Statement I : In Anaphase I, homologous chromosomes separate which sister chromatids remain together.

Statement II : In Anaphase II, chromosomes line up along the metaphase plate.

In the light of the above statements, choose the most appropriate answer from the options given below :

- (1) Both Statement I and Statement II are correct
- (2) Both Statement I and Statement II are incorrect
- (3) Statement I is correct but Statement II is incorrect
- (4) Statement I is incorrect but Statement II is correct

Options :

- 1. 1
- 2. 2
- 3. 3
- 4. 4

Question Number : 69 Question Id : 74957271 Question Type : MCQ Option Shuffling : No Correct Marks : 1 Wrong Marks : 0.25

The function of the hepatic portal circulation is to :

- (1) carry toxins to the venous system for disposal through the urinary tract
- (2) hormone distribution
- (3) collect absorbed nutrients for metabolic processing or storage
- (4) transfer bile to the liver from the pancreas

Options :

- 1. 1
- 2. 2
- 3. 3
- 4. 4

Question Number : 70 Question Id : 74957272 Question Type : MCQ Option Shuffling : No Correct Marks : 1 Wrong Marks : 0.25

Which of the following statements is incorrect?

- (1) Aldosterone stimulates the reabsorption of Na^+
- (2) Aldosterone affects water resorption
- (3) Aldosterone is made in the hypothalamus and released from the anterior pituitary
- (4) Aldosterone stimulates the secretion of K^+

Options :

- 1. 1
- 2. 2
- 3. 3
- 4. 4

Question Number : 71 Question Id : 74957273 Question Type : MCQ Option Shuffling : No Correct Marks : 1 Wrong Marks : 0.25

Regarding BLAST (Basic Local Alignment Search Tool) all the following statements are correct EXCEPT :

- (1) The tool is used to compare newly sequenced genomic DNA to known sequences stored in various databases
- (2) Once aligned the result is showed as output of three lines : Query, Sbject (Subject) and human sequence
- (3) Access to BLAST is provided by NCBI
- (4) BLAST report also provides an 'Expect' value or E value based on number of matches

Options :

- 1. 1
- 2. 2
- 3. 3
- 4. 4

Question Number : 72 Question Id : 74957274 Question Type : MCQ Option Shuffling : No

Correct Marks : 1 Wrong Marks : 0.25

Given below are two statements ; in which one is Assertion (A) and the other one is Reason (R) :

Assertion (A) : Cri du chat syndrome is a classical example of endopolyploidy in human.

Reasoning (R) : In Cri du chat syndrome there is partial monosomy resulting from small terminal deletion involving chromosome 5.

In the light of above statements choose the correct answer :

- (1) Both (A) and (R) are true and (R) is the correct explanation of (A)
- (2) Both (A) and (R) are true but (R) is not the correct explanation of (A)
- (3) (A) is true but (R) is false
- (4) (A) is false but (R) is true

Options :

- 1. 1
- 2. 2
- 3. 3
- 4. 4

Question Number : 73 Question Id : 74957275 Question Type : MCQ Option Shuffling : No Correct Marks : 1 Wrong Marks : 0.25

Given below are two statements :

Statement I : The genetic code is written in linear form with three nucleotide letters, thus referred as triplet code.

Statement II : The coding system is highly variable, in different organisms one triplet code can specify different amino acids in different organisms.

In the light of the above statements, choose the correct answer from the options :

- (1) Both Statement I and Statement II are true
- (2) Both Statement I and Statement II are false
- (3) Statement I is true but statement II is false
- (4) Statement I is false but statement II is true

Options :

- 1. 1
- 2. 2
- 3. 3
- 4. 4

Question Number : 74 Question Id : 74957276 Question Type : MCQ Option Shuffling : No Correct Marks : 1 Wrong Marks : 0.25

In a pedigree, the first person identified to be suffering from a genetic disease is called as :

- | | |
|----------------|----------------|
| (1) Consultant | (2) Proband |
| (3) Kindred | (4) Consultand |

Options :

- 1. 1
- 2. 2
- 3. 3
- 4. 4

Question Number : 75 Question Id : 74957277 Question Type : MCQ Option Shuffling : No Correct Marks : 1 Wrong Marks : 0.25

Two hypothetical SNPs (Single Nucleotide Polymorphism) in humans are 4 map units (m.u.) apart. The allele at SNP1 can be A or T ; the allele at SNP2 can be C or G. A male with genotype AG/TC and a female with genotype AC/AC have a child. What is the probability they have a child with genotype AG/AC?

- | | |
|---------|---------|
| (1) 96% | (2) 4% |
| (3) 48% | (4) 16% |

Options :

- 1. 1
- 2. 2
- 3. 3
- 4. 4

Question Number : 76 Question Id : 74957278 Question Type : MCQ Option Shuffling : No Correct Marks : 1 Wrong Marks : 0.25

The clover leaf structure is a unique feature of which of the following molecules?

- | | |
|-----------------------------|-----------------------------|
| (1) 28S subunit of ribosome | (2) Unspliced mRNA molecule |
| (3) Spliced tRNA molecule | (4) Pre-processed sno RNA |

Options :

- 1. 1
- 2. 2
- 3. 3
- 4. 4

Question Number : 77 Question Id : 74957279 Question Type : MCQ Option Shuffling : No Correct Marks : 1 Wrong Marks : 0.25

An autosomal recessive condition affects 1 new born in 10,000. What is the expected frequency of carriers?

- | | |
|----------------|---------------|
| (1) 198/10,000 | (2) 99/10,000 |
| (3) 1/100 | (4) 99/100 |

Options :

- 1. 1
- 2. 2
- 3. 3
- 4. 4

Question Number : 78 Question Id : 74957280 Question Type : MCQ Option Shuffling : No Correct Marks : 1 Wrong Marks : 0.25

The Hardy Weinberg principle is integral to population genetics. All of the following options can disturb the Hardy Weinberg equilibrium EXCEPT

- | | |
|-------------------|---------------------------|
| (1) Random mating | (2) Mutation |
| (3) Gene Flow | (4) Small population size |

Options :

- 1. 1
- 2. 2
- 3. 3
- 4. 4

Question Number : 79 Question Id : 74957281 Question Type : MCQ Option Shuffling : No Correct Marks : 1 Wrong Marks : 0.25

In genetic linkage, the concept of recombination fraction is very important, of the characteristics given here, choose the correct ones.

- (A) Recombination fraction is usually designated as θ (theta)
 - (B) It is the measure of the distance separating two loci on different chromosomes
 - (C) It gives an indication of the likelihood that a cross-over will occur between the two loci
 - (D) Genes at loci are not linked then $\theta = 0.5$
 - (E) Genes at unlinked loci will segregate together during 20% of all meiosis
- | | |
|-------------------|-------------------|
| (1) (B), (C), (E) | (2) (A), (D), (E) |
| (3) (A), (C), (D) | (4) (A), (B), (C) |

Options :

- 1. 1

- 2. 2
- 3. 3
- 4. 4

Question Number : 80 Question Id : 74957282 Question Type : MCQ Option Shuffling : No Correct Marks : 1 Wrong Marks : 0.25

The process of genetic counselling involves various steps. These steps have been randomised and listed below. From the options given below, choose the correct sequence in which the counselling steps should be undertaken/performed.

- (A) Risk assessment
- (B) Diagnosis based on history and investigation
- (C) Long term contact and support group
- (D) Discussion of options

- (1) (B), (D), (C), (A)
- (2) (B), (A), (D), (C)
- (3) (A), (B), (C), (D)
- (4) (B), (C), (A), (D)

Options :

- 1. 1
- 2. 2
- 3. 3
- 4. 4

Question Number : 81 Question Id : 74957283 Question Type : MCQ Option Shuffling : No Correct Marks : 1 Wrong Marks : 0.25

In which stage of the cell cycle, the cells double their amount of DNA?

- | | |
|--------------|--------------|
| (1) G1 phase | (2) G2 phase |
| (3) M phase | (4) S phase |

Options :

- 1. 1
- 2. 2
- 3. 3
- 4. 4

Question Number : 82 Question Id : 74957284 Question Type : MCQ Option Shuffling : No Correct Marks : 1 Wrong Marks : 0.25

In Eukaryotes, citric acid cycle takes place in

- | | |
|------------------|------------------|
| (1) Nucleus | (2) Cytoplasm |
| (3) Mitochondria | (4) Golgi bodies |

Options :

1. 1
2. 2
3. 3
4. 4

Question Number : 83 Question Id : 74957285 Question Type : MCQ Option Shuffling : No Correct Marks : 1 Wrong Marks : 0.25

What is the approximate molecular mass of polypeptide containing 100 amino acid residues?

- | | |
|---------------|---------------|
| (1) 300 Da | (2) 11,000 Da |
| (3) 30,000 Da | (4) 110 Da |

Options :

1. 1
2. 2
3. 3
4. 4

Question Number : 84 Question Id : 74957286 Question Type : MCQ Option Shuffling : No Correct Marks : 1 Wrong Marks : 0.25

Human genomic DNA isolated with concentration of 400 µg/ml, needs to be digested with restriction enzyme Bam H1 (2000 U/ml). Investigator needs to set reaction with 10 µg of genomic DNA with 10 units of enzyme. How much volume (in µl – micro litre) needs to be drawn from the two stock solutions respectively to get 10 µg of DNA and 10 U of enzyme?

- (1) DNA stock – 25µl Enzyme – 5 µl
- (2) DNA stock – 35µl Enzyme – 7.5 µl
- (3) DNA stock – 27.5µl Enzyme – 7.5 µl
- (4) DNA stock – 10µl Enzyme – 10 µl

Options :

1. 1
2. 2
3. 3
4. 4

Question Number : 85 Question Id : 74957287 Question Type : MCQ Option Shuffling : No Correct Marks : 1 Wrong Marks : 0.25

Match the List I with List II.

List I	List II
(A) Taq DNA polymerase	(I) used to make cDNA
(B) MMLV Reverse Transcriptase	(II) used to phosphorylate oligos or DNA
(C) RNA polymerase II	(III) used to amplify DNA
(D) T ₄ polynucleotide kinase	(IV) Transcription particularly of mRNA, LncRNA

Choose the correct options given below :

- (1) (A)-(IV), (B)-(III), (C)-(II), (D)-(I)
- (2) (A)-(III), (B)-(IV), (C)-(I), (D)-(II)
- (3) (A)-(I), (B)-(II), (C)-(III), (D)-(IV)
- (4) (A)-(III), (B)-(I), (C)-(IV), (D)-(II)

Options :

- 1. 1
- 2. 2
- 3. 3
- 4. 4

Question Number : 86 Question Id : 74957288 Question Type : MCQ Option Shuffling : No Correct Marks : 1 Wrong Marks : 0.25

Select the correct primer pair of forward and reverse primer sequence that amplify full length of sequence given below :

5' – TAC TAT CGA GTA CTA GAC TAC TAAGT 1 – 100 – 1 ACT, AGA, CGT ACG, TAG, TAC, GTT ACT AC – 3'

- (1) 5' – ATG ATA GCT CAT GAT CTG AT – 3' Forward
5' – GTA GTA ACG TAC TAC GTA CG – 3' Reverse
- (2) 5' – TAC TAT CGA GTA CTA GAC TA – 3' Forward
5' – GTA GTA ACG TAC TAC GTA CG – 3' Reverse
- (3) 5' – ATG ATA GCT CAT GAT CTG AT – 3' Forward
5' – GCA TGC ATC ATG CAA TGA TG – 3' Reverse
- (4) 5' – TAG TCT AGT ACT CGA TAG TA – 3' Forward
5' – GCA TGC ATC ATG CAA TGA TG – 3' Reverse

Options :

- 1. 1
- 2. 2
- 3. 3
- 4. 4

Question Number : 87 Question Id : 74957289 Question Type : MCQ Option Shuffling : No Correct Marks : 1 Wrong Marks : 0.25

_____ variant of BLAST, compares a DNA query sequence to the protein database.

- | | |
|-------------|-------------|
| (1) BLASTP | (2) BLASTX |
| (3) BLAST N | (4) TBLASTN |

Options :

- 1. 1
- 2. 2
- 3. 3
- 4. 4

Question Number : 88 Question Id : 74957290 Question Type : MCQ Option Shuffling : No Correct Marks : 1 Wrong Marks : 0.25

Which one of the following is not a primary database?

- | | |
|------------------|--------------|
| (1) SWISS – PROT | (2) EMBL |
| (3) DDBJ | (4) Gen Bank |

Options :

- 1. 1
- 2. 2
- 3. 3
- 4. 4

Question Number : 89 Question Id : 74957291 Question Type : MCQ Option Shuffling : No Correct Marks : 1 Wrong Marks : 0.25

The computational approaches to predict the three-dimensional structures of proteins are :

- (A) Homology modeling
- (B) X-ray crystallography
- (C) NMR
- (D) Threading
- (E) Ab-initio

Choose the correct answer from the options given below:

- (1) (A) only
- (2) (B) and (C) only
- (3) (A), (D) and (E) only
- (4) (C) only

Options :

- 1. 1
- 2. 2
- 3. 3
- 4. 4

Question Number : 90 Question Id : 74957292 Question Type : MCQ Option Shuffling : No Correct Marks : 1 Wrong Marks : 0.25

What happens to transferrin when iron is bound to it and it interacts with its receptor?

- (1) It is degraded inside the lysosome
- (2) Undergoes a conformational change allowing binding to its receptor
- (3) It is converted to apotransferrin
- (4) Permanently internalized and degraded

Options :

- 1. 1
- 2. 2
- 3. 3
- 4. 4

Question Number : 91 Question Id : 74957293 Question Type : MCQ Option Shuffling : No Correct Marks : 1 Wrong Marks : 0.25

Which non-viral gene delivery method utilizes physical forces to introduce genetic material into cells?

- | | |
|---------------------|---------------------|
| (1) Liposomes | (2) Poly (L-lysine) |
| (3) Electroporation | (4) Adenoviruses |

Options :

1. 1
2. 2
3. 3
4. 4

Question Number : 92 Question Id : 74957294 Question Type : MCQ Option Shuffling : No Correct Marks : 1 Wrong Marks : 0.25

Which protein is responsible for cleaving double stranded RNA into smaller fragments during RNA interference?

- | | |
|------------|--------------|
| (1) Slicer | (2) Helicase |
| (3) RISC | (4) Dicer |

Options :

1. 1
2. 2
3. 3
4. 4

Question Number : 93 Question Id : 74957295 Question Type : MCQ Option Shuffling : No Correct Marks : 1 Wrong Marks : 0.25

What is the main advantage of using Short Tandem Repeats (STRs) over restriction fragment length polymorphism (RFLP) in DNA fingerprinting?

- (1) STRs are easier to visualize on a gel
- (2) STRs requires less DNA and are more resistant to degradation
- (3) STRs produce more distinct band pattern
- (4) STRs are less expensive to analyze

Options :

1. 1
2. 2
3. 3
4. 4

Question Number : 94 Question Id : 74957296 Question Type : MCQ Option Shuffling : No

Correct Marks : 1 Wrong Marks : 0.25

Which of the following steps in PCR is responsible for separating double-stranded DNA into single strands?

- | | |
|---------------|----------------|
| (1) Annealing | (2) Extension |
| (3) Melting | (4) Elongation |

Options :

1. 1
2. 2
3. 3
4. 4

Question Number : 95 Question Id : 74957297 Question Type : MCQ Option Shuffling : No Correct Marks : 1 Wrong Marks : 0.25

Match the following :

List I	List II
(A) Autotroph	(I) Macro consumers
(B) Phagotrops	(II) Micro consumers
(C) Saprotrops	(III) Primary producers
(D) Heliotrophs	(IV) Sun loving plants

Choose the correct answer from the options given below :

- (1) (A)-(II), (B)-(IV), (C)-(III), (D)-(I)
- (2) (A)-(I), (B)-(II), (C)-(III), (D)-(IV)
- (3) (A)-(III), (B)-(I), (C)-(II), (D)-(IV)
- (4) (A)-(I), (B)-(III), (C)-(IV), (D)-(II)

Options :

1. 1
2. 2
3. 3
4. 4

Question Number : 96 Question Id : 74957298 Question Type : MCQ Option Shuffling : No Correct Marks : 1 Wrong Marks : 0.25

The reductive pentose phosphate pathway is also known as

- (A) Photosynthetic Carbon Oxidation cycle (PCO)
- (B) Calvin – Benson cycle
- (C) Photorespiration
- (D) C4 cycle

Choose the correct answer from the options given below :

- (1) Both (A) and (B) are correct
- (2) Both (B) and (C) are correct
- (3) (B) only
- (4) (C) only

Options :

- 1. 1
- 2. 2
- 3. 3
- 4. 4

Question Number : 97 Question Id : 74957299 Question Type : MCQ Option Shuffling : No Correct Marks : 1 Wrong Marks : 0.25

Cortisones, used in the treatment of rheumatoid arthritis, are produced from fermentation of _____ by *Rhizopus migrans*.

- | | |
|-----------------|------------|
| (1) Amino acids | (2) Lipids |
| (3) Glycosides | (4) Starch |

Options :

- 1. 1
- 2. 2
- 3. 3
- 4. 4

Question Number : 98 Question Id : 749572100 Question Type : MCQ Option Shuffling : No Correct Marks : 1 Wrong Marks : 0.25

In cell cycle there are 4 stages. M, G1, S and G2. There is another term commonly used ; G0 phase. Choose the best described statement for this G0 phase.

- (1) Cells are at growing stage
- (2) Cells are at the stage of differentiation
- (3) Cells have ceased to divide
- (4) Cells are about to double

Options :

- 1. 1
- 2. 2
- 3. 3
- 4. 4

Question Number : 99 Question Id : 749572101 Question Type : MCQ Option Shuffling : No Correct Marks : 1 Wrong Marks : 0.25

Based on series of events outlined in Central Dogma, there are enzymes that convert from one stage to the other. However, one conversion is not possible yet. Identify the stage :

- | | |
|----------------|--------------------|
| (1) DNA to RNA | (2) Protein to RNA |
| (3) DNA to DNA | (4) RNA to DNA |

Options :

- 1. 1
- 2. 2
- 3. 3
- 4. 4

Question Number : 100 Question Id : 749572102 Question Type : MCQ Option Shuffling : No Correct Marks : 1 Wrong Marks : 0.25

In lactose operon, the following events happen.

- (A) The operon is normally in an "off" mode when appropriate substrate is absent.
- (B) Lactose is an inducer substrate.
- (C) If lactose is added to the cell's environment, it triggers events that turn the operator "on".
- (D) The structural genes are transcribed in 3 different transcripts coding for all three different enzymes.
- (E) As lactose is depleted, operon is repressed.

Which of the answers is correct?

- | | |
|-------------------|-------------------|
| (1) (A), (B), (C) | (2) (B), (C), (D) |
| (3) (A), (D), (E) | (4) (C), (D), (E) |

Options :

- 1. 1
- 2. 2
- 3. 3
- 4. 4

Section C Microbiology

Section Id :	7495723
Section Number :	3
Section type :	Online
Mandatory or Optional :	Mandatory
Number of Questions :	50
Number of Questions to be attempted :	50
Section Marks :	50
Maximum Instruction Time :	0
Sub-Section Number :	1
Sub-Section Id :	7495725
Question Shuffling Allowed :	Yes

Question Number : 101 Question Id : 749572103 Question Type : MCQ Option Shuffling : No
Correct Marks : 1 Wrong Marks : 0.25

What is trans-ovarial transmission

- (1) Transmission of pathogen in different stages of insect life cycle
- (2) Transmission of pathogen from mosquito to human through ovary
- (3) Transmission of pathogen from one generation to next generation of mosquito
- (4) Transmission of disease from human to mosquito through biting

Options :

1. 1
2. 2
3. 3
4. 4

Question Number : 102 Question Id : 749572104 Question Type : MCQ Option Shuffling : No
Correct Marks : 1 Wrong Marks : 0.25

What is 'EIR'

- (1) Early Insecticide Resistance
- (2) Entomological Inoculation Rate
- (3) Enzyme Infection Response
- (4) Environmental Infestation Rate

Options :

1. 1
2. 2

3. 3

4. 4

Question Number : 103 Question Id : 749572105 Question Type : MCQ Option Shuffling : No Correct Marks : 1 Wrong Marks : 0.25

Which of the following is vector of Chagas disease

- | | |
|------------------------------|-------------------------------|
| (1) <i>Rhodnius prolixus</i> | (2) <i>Musca domestica</i> |
| (3) <i>Pediculus humanus</i> | (4) <i>Glossina morsitans</i> |

Options :

1. 1

2. 2

3. 3

4. 4

Question Number : 104 Question Id : 749572106 Question Type : MCQ Option Shuffling : No Correct Marks : 1 Wrong Marks : 0.25

Example of 'soft tick' is

- | | |
|---------------------------------|---------------------------------|
| (1) <i>Ornithodoros moubata</i> | (2) <i>Cheyletiella yasquri</i> |
| (3) <i>Demodicidae bovis</i> | (4) <i>Pedicus humanis</i> |

Options :

1. 1

2. 2

3. 3

4. 4

Question Number : 105 Question Id : 749572107 Question Type : MCQ Option Shuffling : No Correct Marks : 1 Wrong Marks : 0.25

Which of the following disease is caused by Sand fly

- | | |
|----------------|------------------|
| (1) Babesiosis | (2) Yellow fever |
| (3) Kala Azar | (4) Zika |

Options :

1. 1

2. 2

3. 3

4. 4

Question Number : 106 Question Id : 749572108 Question Type : MCQ Option Shuffling : No Correct Marks : 1 Wrong Marks : 0.25

What kind of mouth part are present in Housefly

- | | |
|-------------------------------|------------------------------|
| (1) Piercing and sucking type | (2) Biting and chewing type |
| (3) Sponging and lapping type | (4) Cutting and chewing type |

Options :

- 1. 1
- 2. 2
- 3. 3
- 4. 4

Question Number : 107 Question Id : 749572109 Question Type : MCQ Option Shuffling : No Correct Marks : 1 Wrong Marks : 0.25

What is extrinsic incubation period in Dengue

- (1) The time period taken by patient to recover
- (2) The duration when mosquito takes infected blood and the pathogen appears in salivary gland of mosquito
- (3) Duration between biting of mosquito and appearance of symptoms in human
- (4) The time duration between transmission of disease from one patient to the other

Options :

- 1. 1
- 2. 2
- 3. 3
- 4. 4

Question Number : 108 Question Id : 749572110 Question Type : MCQ Option Shuffling : No Correct Marks : 1 Wrong Marks : 0.25

What are cecropins

- (1) Anti-fungal compounds of human
- (2) Anti-parasitic drugs
- (3) Anti-microbial peptides
- (4) Anti-malaria compound

Options :

- 1. 1
- 2. 2

3. 3

4. 4

Question Number : 109 Question Id : 749572111 Question Type : MCQ Option Shuffling : No Correct Marks : 1 Wrong Marks : 0.25

Given below are two statements for Aedes mosquito

Statement I : The mosquito is a day biter, breeds in freshwater container and spreads dengue, zika and malaria

Statement II : The mosquito is a day biter, likes to bite human and spreads dengue, zika and chikungunya

In the light of the above, choose answer from the options given below

- (1) Both Statement I and Statement II are true
- (2) Both Statement I and Statement II are false
- (3) Statement I is true but Statement II is false
- (4) Statement I is false but Statement II is true

Options :

1. 1

2. 2

3. 3

4. 4

Question Number : 110 Question Id : 749572112 Question Type : MCQ Option Shuffling : No Correct Marks : 1 Wrong Marks : 0.25

Horn fly is a parasite of

- | | |
|-------------|-------------|
| (1) Human | (2) Cattle |
| (3) Insects | (4) Rodents |

Options :

1. 1

2. 2

3. 3

4. 4

Question Number : 111 Question Id : 749572113 Question Type : MCQ Option Shuffling : No Correct Marks : 1 Wrong Marks : 0.25

What is referred to MHD in Malaria

- (1) Malaria House Index
- (2) Mosquito Human Density
- (3) Migration Health Division
- (4) Mosquito Hour Detection

Options :

- 1. 1
- 2. 2
- 3. 3
- 4. 4

Question Number : 112 Question Id : 749572114 Question Type : MCQ Option Shuffling : No Correct Marks : 1 Wrong Marks : 0.25

Given below are two statements

Statement I : Male mosquito take blood, but cannot transmit disease

Statement II : Male mosquito cannot take blood hence, do not transmit disease

In the light of the above statements, choose the correct answer from the options given below

- (1) Both Statement I and Statement II are true
- (2) Both Statement I and Statement II are false
- (3) Statement I is true but Statement II is false
- (4) Statement I is false but Statement II is true

Options :

- 1. 1
- 2. 2
- 3. 3
- 4. 4

Question Number : 113 Question Id : 749572115 Question Type : MCQ Option Shuffling : No Correct Marks : 1 Wrong Marks : 0.25

What defines best for ACL-2 in vector biology research studies

- (1) Artificial containment level – 2
- (2) Alternate containment level – 2
- (3) Arthropod containment level - 2
- (4) Active containment level – 2

Options :

- 1. 1
- 2. 2
- 3. 3
- 4. 4

Question Number : 114 Question Id : 749572116 Question Type : MCQ Option Shuffling : No Correct Marks : 1 Wrong Marks : 0.25

Which of the following is component of the circulatory system in insects

- | | |
|---------------------|-------------|
| (1) Fat body system | (2) Thorax |
| (3) Haemolymph | (4) Abdomen |

Options :

- 1. 1
- 2. 2
- 3. 3
- 4. 4

Question Number : 115 Question Id : 749572117 Question Type : MCQ Option Shuffling : No Correct Marks : 1 Wrong Marks : 0.25

Which of the following is responsible for cellular immunity in insects

- | | |
|--------------------|---------------------------|
| (1) Salivary gland | (2) Midgut |
| (3) Fat Body | (4) Hemocyte (Haemolymph) |

Options :

- 1. 1
- 2. 2
- 3. 3
- 4. 4

Question Number : 116 Question Id : 749572118 Question Type : MCQ Option Shuffling : No Correct Marks : 1 Wrong Marks : 0.25

What is the best feed source for mosquito larva

- | | |
|--------------|--------------|
| (1) Sugar | (2) Minerals |
| (3) Microbes | (4) Others |

Options :

- 1. 1
- 2. 2
- 3. 3

4. 4

Question Number : 117 Question Id : 749572119 Question Type : MCQ Option Shuffling : No Correct Marks : 1 Wrong Marks : 0.25

Which insect of the following serves as best model for genetic studies

- | | |
|-----------------|----------------|
| (1) Grasshopper | (2) Cockroach |
| (3) Mosquito | (4) Drosophila |

Options :

- 1. 1
- 2. 2
- 3. 3
- 4. 4

Question Number : 118 Question Id : 749572120 Question Type : MCQ Option Shuffling : No Correct Marks : 1 Wrong Marks : 0.25

For studying insect spermatogenesis process, which target organ needs to be focused

- | | |
|-------------------------------|-----------------------------|
| (1) Female reproductive organ | (2) Male reproductive organ |
| (3) Thorax organ | (4) Malpighian tubule |

Options :

- 1. 1
- 2. 2
- 3. 3
- 4. 4

Question Number : 119 Question Id : 749572121 Question Type : MCQ Option Shuffling : No Correct Marks : 1 Wrong Marks : 0.25

For generating insect vector genome data, which is essential and primary requirement

- (1) RNA isolation and sequencing
- (2) DNA isolation and sequencing
- (3) Protein isolation and sequencing
- (4) Other techniques

Options :

- 1. 1
- 2. 2
- 3. 3

4. 4

Question Number : 120 Question Id : 749572122 Question Type : MCQ Option Shuffling : No Correct Marks : 1 Wrong Marks : 0.25

Find correct statement

- (1) Insect carries innate immunity, but lacks adaptive immunity
- (2) Insect carries adaptive immunity but lacks innate immunity
- (3) Insect carries both adaptive and innate immunity
- (4) Insect lacks immune system

Options :

- 1. 1
- 2. 2
- 3. 3
- 4. 4

Question Number : 121 Question Id : 749572123 Question Type : MCQ Option Shuffling : No Correct Marks : 1 Wrong Marks : 0.25

Which of the chemical reagent would be most suitable to isolate DNA/RNA/Protein together from same sample

- | | |
|-------------------------------|-------------|
| (1) Phosphate buffer solution | (2) Water |
| (3) Trizole | (4) Ethanol |

Options :

- 1. 1
- 2. 2
- 3. 3
- 4. 4

Question Number : 122 Question Id : 749572124 Question Type : MCQ Option Shuffling : No Correct Marks : 1 Wrong Marks : 0.25

Given below are two statements

Statement I : Both adult male and female feed on blood

Statement II : Both adult male and female feed on nector sugar

In light of the above statement, choose the most appropriate answer from the options given below

- (1) Both Statement I and Statement II are correct
- (2) Both Statement I and Statement II are incorrect
- (3) Statement I is correct but Statement II is incorrect
- (4) Statement I is incorrect but Statement II is correct

Options :

- 1. 1
- 2. 2
- 3. 3
- 4. 4

Question Number : 123 Question Id : 749572125 Question Type : MCQ Option Shuffling : No Correct Marks : 1 Wrong Marks : 0.25

Given below are Assertion (A) and Reasoning (R)

Assertion (A) : The level of efficacy of inactivated viral vaccine differ for different viruses

Reasoning (R) : Because the inactivated viral vaccines are grown in a variety of cell substrates such as eggs, monkey kidney, cell line, human diploid fibroblasts or mouse brain and inactivated with a chemical or detergent

Choose the correct answer from the option below

- (1) Both (A) and (R) are true, but (R) is the correct explanation of (A)
- (2) Both (A) and (R) are true, but (R) is not the correct explanation of (A)
- (3) (A) is true but (R) is false
- (4) (A) is false but (R) is true

Options :

- 1. 1
- 2. 2
- 3. 3
- 4. 4

Question Number : 124 Question Id : 749572126 Question Type : MCQ Option Shuffling : No Correct Marks : 1 Wrong Marks : 0.25

Given below are Assertion (A) and Reasoning (R)

Assertion (A) : The Western Hemisphere was eliminated of polio viruses by 1990 as a result of immunization program

Reasoning (R) : Introduction of two poliovirus vaccines (inactivated poliovirus vaccine IPV and oral poliovirus vaccine OPV) to the population from 1955–1963 led to the elimination

Choose the correct answer from the options below

- (1) Both (A) and (R) are true, but (R) is the correct explanation of (A)
- (2) Both (A) and (R) are true, but (R) is not the correct explanation of (A)
- (3) (A) is true, but (R) is false
- (4) (A) is false, but (R) is true

Options :

- 1. 1
- 2. 2
- 3. 3
- 4. 4

Question Number : 125 Question Id : 749572127 Question Type : MCQ Option Shuffling : No Correct Marks : 1 Wrong Marks : 0.25

Which viruses undergo genetic drift and genetic shift

- | | |
|---------------------|---------------------|
| (1) Poliovirus | (2) Influenza virus |
| (3) Hepatitis virus | (4) Dengue virus |

Options :

- 1. 1
- 2. 2
- 3. 3
- 4. 4

Question Number : 126 Question Id : 749572128 Question Type : MCQ Option Shuffling : No Correct Marks : 1 Wrong Marks : 0.25

Given below are two statements

Statement I : Highly effective antiviral drugs have been developed for all viral diseases

Statement II : Drug targets are very specific for viruses, therefore, only few antiviral drugs have been developed against one virus and active against another virus

Choose the correct answer from the options below

- (1) Both Statement I and Statement II are true
- (2) Both Statement I and Statement II are false
- (3) Statement I is true but Statement II is false
- (4) Statement I is false but Statement II is true

Options :

- 1. 1
- 2. 2
- 3. 3
- 4. 4

Question Number : 127 Question Id : 749572129 Question Type : MCQ Option Shuffling : No Correct Marks : 1 Wrong Marks : 0.25

Match the viruses with its respective family

Match List I with List II

List I	List II
(A) Rotavirus	(I) Orthomyxoviridae
(B) Human Immunodeficiency Virus (HIV)	(II) Picornaviridae
(C) Influenza virus	(III) Reoviridae
(D) Poliovirus	(IV) Retroviridae

Choose the correct answer from the options given below

- (1) (A)-(II), (B)-(III), (C)-(IV), (D)-(I)
- (2) (A)-(III), (B)-(IV), (C)-(I), (D)-(II)
- (3) (A)-(I), (B)-(III), (C)-(II), (D)-(IV)
- (4) (A)-(IV), (B)-(II), (C)-(I), (D)-(III)

Options :

- 1. 1
- 2. 2
- 3. 3

4. 4

Question Number : 128 Question Id : 749572130 Question Type : MCQ Option Shuffling : No Correct Marks : 1 Wrong Marks : 0.25

Match the viruses with the respective symptomatic disease

Match List I with List II

List I	List II
(A) Influenza virus	(I) Maculopapular rash
(B) Rotavirus	(II) Acute flaccid paralysis
(C) Measles virus	(III) Diarrhoeal disease
(D) Poliovirus	(IV) Severe acute respiratory infection

Choose the correct answer from the options below

- (1) (A)-(II), (B)-(I), (C)-(IV), (D)-(III)
- (2) (A)-(III), (B)-(IV), (C)-(I), (D)-(II)
- (3) (A)-(IV), (B)-(III), (C)-(I), (D)-(II)
- (4) (A)-(I), (B)-(II), (C)-(IV), (D)-(III)

Options :

- 1. 1
- 2. 2
- 3. 3
- 4. 4

Question Number : 129 Question Id : 749572131 Question Type : MCQ Option Shuffling : No Correct Marks : 1 Wrong Marks : 0.25

Given below are two statements

Statement I : A unique step in the replication cycle of HIV after nuclear entry of the DNA is integration of the linear DNA to form provirus and transcription of the provirus

Statement II : Orderly and efficient integration is mediated by the viral Integrase protein 'IN' in the replication cycle of HIV

Choose the correct answer from the options

- (1) Both Statement I and Statement II are true
- (2) Both Statement I and Statement II are false
- (3) Statement I is true, but Statement II is false
- (4) Statement I is false, but Statement II is true

Options :

1. 1
2. 2
3. 3
4. 4

Question Number : 130 Question Id : 749572132 Question Type : MCQ Option Shuffling : No Correct Marks : 1 Wrong Marks : 0.25

Influenza viruses belong to the family orthomyxoviridae which comprises of five genera. Select the correct genera combination from options below

- (A) Isavirus
- (B) Influenza virus A
- (C) Thogtovirus
- (D) Influenza virus B
- (E) Influenza virus C

Choose the correct answer from the options below

- (1) (B), (D), (E) – correct ; (A), (C) – incorrect
- (2) (A), (B), (C), (D), (E) – correct
- (3) (A), (B), (D), (E) – correct ; (C) incorrect
- (4) (B) – correct ; (A), (C), (D), (E) – incorrect

Options :

1. 1
2. 2
3. 3
4. 4

Question Number : 131 Question Id : 749572133 Question Type : MCQ Option Shuffling : No Correct Marks : 1 Wrong Marks : 0.25

Select the viruses that result into latent infection in a host

- (A) Herpes virus
- (B) Influenza virus
- (C) Rotavirus
- (D) Human Immunodeficiency Virus (HIV)
- (E) Measles virus

Choose the correct answer from the options below

- (1) (A), (B), (C), (D) – correct; (E) – incorrect
- (2) (A), (D) – correct ; (B), (C), (E) – incorrect
- (3) (A), (B), (C), (D), (E) – correct
- (4) (B), (C), (E) – correct ; (A), (D) – incorrect

Options :

- 1. 1
- 2. 2
- 3. 3
- 4. 4

Question Number : 132 Question Id : 749572134 Question Type : MCQ Option Shuffling : No Correct Marks : 1 Wrong Marks : 0.25

Which of the following statement about influenza viruses is correct

Statement I : All influenza viruses such as influenza A, influenza B and influenza C viruses possess eight RNA segments

Statement II : Influenza A and influenza B viruses possess eight RNA segments, while, influenza C virus possesses seven RNA segments

Choose the correct answer from the options below

- (1) Both Statement I and Statement II are true
- (2) Both Statement I and Statement II are false
- (3) Statement I is true but Statement II is false
- (4) Statement I is false but statement II is true

Options :

- 1. 1
- 2. 2
- 3. 3
- 4. 4

Question Number : 133 Question Id : 749572135 Question Type : MCQ Option Shuffling : No

Correct Marks : 1 Wrong Marks : 0.25

Influenza viruses use which protein to disseminate infectious particles out of the host cell

Select from the following options

- | | |
|-------------------------|------------------------------------|
| (1) Matrix Protein (M) | (2) Polymerase Protein Acidic (PA) |
| (3) Haemagglutinin (HA) | (4) Neuraminidase (NA) |

Options :

1. 1
2. 2
3. 3
4. 4

Question Number : 134 Question Id : 749572136 Question Type : MCQ Option Shuffling : No Correct Marks : 1 Wrong Marks : 0.25

One of the following is a temporary parasite

Choose the correct answer from the options given below

- | | |
|-----------------|----------------------------|
| (1) Mosquitoes | (2) Helminths |
| (3) Mange mites | (4) Larvae of warble flies |

Options :

1. 1
2. 2
3. 3
4. 4

Question Number : 135 Question Id : 749572137 Question Type : MCQ Option Shuffling : No Correct Marks : 1 Wrong Marks : 0.25

Trypanosoma brucei causes Nagana disease in

Choose the correct answer from the options given below

- | | |
|---------------|-------------|
| (1) Humans | (2) Cattle |
| (3) Ungulates | (4) Felines |

Options :

1. 1
2. 2
3. 3
4. 4

Question Number : 136 Question Id : 749572138 Question Type : MCQ Option Shuffling : No
Correct Marks : 1 Wrong Marks : 0.25

Susceptibility to malaria is determined by not only polymorphisms of haemoglobin but also immune responses. This is reflected in polymorphisms of

Choose the correct answer from the options given below

- | | |
|-------------------|--------------------|
| (1) Adenine genes | (2) Guanine genes |
| (3) Uracil genes | (4) Cytokine genes |

Options :

1. 1
2. 2
3. 3
4. 4

Question Number : 137 Question Id : 749572139 Question Type : MCQ Option Shuffling : No
Correct Marks : 1 Wrong Marks : 0.25

Given below are two statements

Statement I : *Giardia lamblia* is a tetraploid organism, binucleate containing identical set of genes. Energy is generated via fermentation of glucose and amino-acid metabolism

Statement II : In *Giardia lamblia* infection, most people develop acute and others chronic diarrhea and some remain asymptomatic

In the light of the above statements, choose the correct answer from the options given below

- (1) Both Statement I and Statement II are true
- (2) Both Statement I and Statement II are false
- (3) Statement I is true but Statement II is false
- (4) Statement I is false but Statement II is true

Options :

1. 1
2. 2
3. 3
4. 4

Question Number : 138 Question Id : 749572140 Question Type : MCQ Option Shuffling : No
Correct Marks : 1 Wrong Marks : 0.25

Given below are two statements

Statement I : Disease vector control mainly relies on vaccines, drugs etc.

Statement II : Vector control is achieved by aerial spraying, odour baiting, sterile male insect technique

In the light of the above statements, choose the correct answer from the options given below

- (1) Both Statement I and Statement II are true
- (2) Both Statement I and Statement II are false
- (3) Statement I is true but Statement II is false
- (4) Statement I is false but Statement II is true

Options :

- 1. 1
- 2. 2
- 3. 3
- 4. 4

Question Number : 139 Question Id : 749572141 Question Type : MCQ Option Shuffling : No Correct Marks : 1 Wrong Marks : 0.25

Given below are two statements

Statement I : Genetic approach of mosquito control can be achieved through SIT-RIDL technique. It requires less facilities and delivery mechanisms

Statement II : RIDL requires stable transfection of a lethal gene in laboratory population. Best approach is to use a tetracycline – repressible transcription factor (tTa) associate with a lethal gene, which enables selection of females to be released and kills the female offspring of released and subsequent males

In the light of the above statements, choose the most appropriate answer from the options

- (1) Both Statement I and Statement II are true
- (2) Both Statement I and Statement II are false
- (3) Statement I is true but Statement II is false
- (4) Statement I is false but Statement II is true

Options :

- 1. 1
- 2. 2
- 3. 3
- 4. 4

Question Number : 140 Question Id : 749572142 Question Type : MCQ Option Shuffling : No Correct Marks : 1 Wrong Marks : 0.25

One of the following is an intermediate host of the nematode *Thelazia* sp.

Choose the correct answer from the following options given below

- (1) *Stomoxys calcitrans*
- (2) *Musca autumnalis*
- (3) *Hematobia irritans*
- (4) *Cochliomyia hominivorax*

Options :

- 1. 1
- 2. 2
- 3. 3
- 4. 4

Question Number : 141 Question Id : 749572143 Question Type : MCQ Option Shuffling : No Correct Marks : 1 Wrong Marks : 0.25

One of the following is a non-blood feeding insect, that attacks cattle and causes myiasis

Choose the correct answer from the options given below

- | | |
|-------------------------------|------------------------------------|
| (1) <i>Draschia megastoma</i> | (2) <i>Stomoxys calcitrans</i> |
| (3) <i>Phlebotonius sp.</i> | (4) <i>Cochliomyia hominivorax</i> |

Options :

- 1. 1
- 2. 2
- 3. 3
- 4. 4

Question Number : 142 Question Id : 749572144 Question Type : MCQ Option Shuffling : No Correct Marks : 1 Wrong Marks : 0.25

Anoplurans are characterized by

- (A) Absence of wings
- (B) Long filiform antennae
- (C) Only one pair of wings
- (D) Mouthparts retracted into head

Choose the correct answer from the options given below

- (1) (A) and (B)
- (2) (B) and (C)
- (3) (A) and (D)
- (4) (C) and (D)

Options :

- 1. 1
- 2. 2
- 3. 3
- 4. 4

Question Number : 143 Question Id : 749572145 Question Type : MCQ Option Shuffling : No Correct Marks : 1 Wrong Marks : 0.25

The pathogen responsible for louse-borne relapsing fever is

- | | |
|---------------------------------|--------------------------------|
| (1) <i>Borrelia recurrentis</i> | (2) <i>Bartonella pastevri</i> |
| (3) <i>Borrelia burgdorferi</i> | (4) <i>Yersinia pestis</i> |

Options :

- 1. 1
- 2. 2
- 3. 3
- 4. 4

Question Number : 144 Question Id : 749572146 Question Type : MCQ Option Shuffling : No Correct Marks : 1 Wrong Marks : 0.25

Which of the following is not a virus transmitted by mosquitoes

- | | |
|--------------------------|---------------------------|
| (1) Japanese river fever | (2) Yellow fever |
| (3) Dengue fever | (4) Japanese encephalitis |

Options :

- 1. 1
- 2. 2

3. 3

4. 4

Question Number : 145 Question Id : 749572147 Question Type : MCQ Option Shuffling : No Correct Marks : 1 Wrong Marks : 0.25

Where does *Rickettsia prowazeki* propagate in the body louse

- | | |
|--------------------|---------------------|
| (1) Flight muscles | (2) Gut wall |
| (3) Spiracles | (4) Salivary glands |

Options :

1. 1

2. 2

3. 3

4. 4

Question Number : 146 Question Id : 749572148 Question Type : MCQ Option Shuffling : No Correct Marks : 1 Wrong Marks : 0.25

Cat flea larvae feed on

- (1) Blood
- (2) Frass from adult fleas
- (3) Shed skin from host
- (4) Regurgitated blood from adult fleas

Options :

1. 1

2. 2

3. 3

4. 4

Question Number : 147 Question Id : 749572149 Question Type : MCQ Option Shuffling : No Correct Marks : 1 Wrong Marks : 0.25

In Hemipterans, what sexes/stages feed on blood

- (1) Adult females only
- (2) Adult males only
- (3) Adults of both sexes
- (4) Adults and immatures of both sexes

Options :

1. 1

- 2. 2
- 3. 3
- 4. 4

Question Number : 148 Question Id : 749572150 Question Type : MCQ Option Shuffling : No Correct Marks : 1 Wrong Marks : 0.25

Plague is transmitted to a person when

- (1) The vector bites and injects infected saliva
- (2) The vector defecates on the person while feeding
- (3) Frass from the vector is scratched into abrasions in the skin
- (4) The vector regurgitates in an attempt to clear the blocked oesophagus

Options :

- 1. 1
- 2. 2
- 3. 3
- 4. 4

Question Number : 149 Question Id : 749572151 Question Type : MCQ Option Shuffling : No Correct Marks : 1 Wrong Marks : 0.25

Major zoonic vector of Eastern equine encephalitis is

- | | |
|-------------------------------------|------------------------------|
| (1) <i>Aedes albopictus</i> | (2) <i>Aedes aegypti</i> |
| (3) <i>Ochlerotatus triseriatus</i> | (4) <i>Culiseta melanura</i> |

Options :

- 1. 1
- 2. 2
- 3. 3
- 4. 4

Question Number : 150 Question Id : 749572152 Question Type : MCQ Option Shuffling : No Correct Marks : 1 Wrong Marks : 0.25

Which of these is not one of the three clinical forms of leishmaniasis

- | | |
|--------------|-------------------|
| (1) Visceral | (2) Cutaneous |
| (3) Occular | (4) Mucocutaneous |

Options :

- 1. 1
- 2. 2

3.3

4.4