

Q1. Though India has refrained from officially commenting on the crucial June 23 referendum on Brexit, it remains deeply vested in the outcome. The first concerns the welfare of a nearly three-million strong diaspora of Indian-origin U.K. citizens, while the second concerns the interests of a large moving population of Indians who come to Britain every year as tourists, business people, professionals, students, spouses, parents and relatives. There are 800 Indian companies in the UK — more than the combined number in the rest of Europe. Britain's exit from EU may affect Indian companies' appetite for investing in the UK, particularly those seeking access to the European market.

Which of the following is not a logical and rational inference that can be made from the above passage?

- A. Brexit is likely to affect Indian companies' investment in UK.
- B. UK market constitutes a great proportion of the Indian companies.
- C. Indian interests in the USA are deeper compared to that in UK.
- D. India has multiple concerns regarding the Brexit outcome.

Answer: C

Exp:

Options (a), (b), and (c) directly follow from the passage and are valid inferences.

There is no data in the passage about India's interests in the USA and thus it is not a logical inference from the passage.

Hence, the correct answer is option c.

Q2. India is a land of contrasts, and nowhere is this truer than in its state of healthcare. With vast variances in the access to and affordability of healthcare across different States, and vivid differences between private and public healthcare and rural and urban health systems, it is necessary to take a view that will not allow the averages to overwhelm the true picture. India faces daunting healthcare challenges. Despite gradual progress in improving access to health systems, including a meticulously planned National Rural Health Mission (NRHM), the twin conundrums of access and affordability remain. The bulk of the historically unreached populations are in rural areas and in remote locations, where the lack of access to healthcare is clearly demonstrated in poor human development indicators, which lag behind the State average.

What is the most logical, rational, and crucial message that is implied in the above passage?

- A. Health-care system in India is in a bad shape and continues to worsen.
- B. Easily accessible and affordable healthcare should reach to all Indians irrespective of caste, location or income.
- C. The developments in the field of healthcare almost never reach the population of rural areas.
- D. India lags behind its western counterparts in terms of healthcare.

Answer: B

Exp:

Options (a) and (c) rephrase the facts from the passage and thus can't be termed as an implied message.

The passage is focused on India and thus a comparison with European counterparts is not supported by the data in the passage and thus option (d) is eliminated.

Option (b) takes facts from the passage and takes the discussion ahead in terms of what needs to be done in light of the problems discussed in the passage and thus represents an implied message from the passage.

Hence, the correct answer is option b.

Q3. As many as 58 people were arrested in 2014 under Article 124-A — a vague and dangerously inexact provision that punishes those who by use of words, signs or visible representation "bring into hatred or contempt" or "excite disaffection" towards the government.

This article is prone to misapplication by vested interests and that people continue to get charged with an offence added to the IPC a decade after its promulgation in 1860, to help a colonial government hold sway over its subjects, is a matter of shame. India failed to scrap the law in the first few years after Independence, after which it was upheld, albeit with caveats, by the Supreme Court in *Kedarnath Singh v. State of Bihar* in 1962. In the intervening years, countries including Britain have abolished their sedition laws. It's time India joined their ranks.

Which one of the following statements best sums up the above passage?

- A. The sedition law in India, a relic from British raj, is highly out of sync with present times and should be scrapped.
- B. Indian politicians and administrators failed to update the British laws in the initial years of independence and we are paying the price for it today.
- C. A law promulgated in 1860 should have no place in the statute book in 2014.
- D. India lags behind many other countries in updation of laws with changing times.

Answer: A

Exp:

The passage is specifically talking about the sedition law and not all laws in general and thus options (b) and (d) can be eliminated.

Also, though statement (c) is mentioning the year in which the sedition law was promulgated, it is still making a generic statement about laws and thus can be eliminated.

The passage is talking about the ill-effects of sedition law framed by Britishers in today's India and puts up a case for abolishing this law. This is captured correctly in option (a).

Hence, the correct answer is option a.

Q4. A recently concluded new global research by American Institute for Cancer Research (AICR) has established that an overweight person carries a great risk of developing the most common type of oesophageal cancer, while drinking alcohol or consuming tobacco increases the risk of the second major type of this cancer. Often increased insulin or insulin like growth factors present in higher levels in obese people may promote certain types of tumors. Obesity, in fact, is associated with increased risks of various types of cancers such as oesophagus, pancreas, colon and rectum and many more possibly and poses as a serious health hazard.

What is the most logical, rational, and crucial message that is implied in the above passage?

- A. Regular exercise is the best prevention for cancer.
- B. Alcohol and tobacco consumed in moderation pose no health hazard as long as obesity is kept at bay.
- C. One can surely prevent cancer if he/she stays away from alcohol, tobacco, and obesity.
- D. One should keep a check on his/her weight to minimize the risk of cancer.

Answer: D

Exp:

Though the passage is indicating that obesity is a major cause of cancer, exercise being the best to prevent cancer does not necessarily follow as the word 'best' used in it is extreme.

The passage just lists alcohol and tobacco as causative factors for cancer and does not mention anything about the quantity of their intake. Thus, the word 'moderation' in option 'b' is not corroborated by the passage and hence option (b) is eliminated.

Though option (c) is ruled out as the passage does not necessarily state that these three are the only causative factors. Thus, option (c) is eliminated as the word "surely" can't be validated from the passage.

Option (d) is implied as a message as the passage mainly focuses on obesity being the cause of many types of cancer.

Hence, the correct answer is option d.

Q5. Skewed presence of Neglected Tropical Diseases in poorer sections leads to underinvestment in research. Within the wide spectrum of diseases, funding and research get diverted to afflictions which have a bigger market or threat like HIV or Ebola. The World Health Organisation (WHO) categorises certain parasitic and bacterial diseases as Neglected Tropical Diseases, or NTDs, that cause substantial illness but affect only the world's poorest populations, affecting over a billion people, primarily poor populations living in tropical and subtropical climates. Lacking a strong political voice, people affected by these tropical diseases have a low status in public health priorities. Lack of reliable statistics has also hampered efforts to bring them out of the shadows," states WHO in an explainer on NTDs.

With reference to the above passage, the following assumptions have been made:

1. Most of the poor people living in tropical and subtropical climates cannot afford to buy medicines even after being afflicted with a disease.
2. Lot of research funding is allocated to the diseases affecting the population of developed countries.

Which of the above is/are valid assumption/assumptions?

- A. 1 only
- B. 2 only
- C. Both 1 and 2
- D. Neither 1 nor 2

Answer: C

Exp:

According to the passage, though over 1 billion people are affected in poor countries, they are not considered a big market. If these people were able to pay, clearly it would have been a big market, and thus the passage is assuming the inability of poor people to pay for the treatment of diseases. Thus, statement 1 is a valid assumption.

Poor investment in research activities of diseases affecting the people of poor countries indicates that all the money goes into the research of diseases affecting the rich countries. Hence, statement 2 is a valid assumption.

Hence, the correct answer is option c.

Q6. On Monday, August 8, the world exhausted nature's budget of natural resources for the entire year as a result of increased consumption levels, according to a World Wildlife Fund (WWF) release. Observed as Earth Overshoot Day, the day marked the beginning of the world operating in overshoot for the rest of the year by exerting excess pressure on the planet for any resources drawn, according to the Global Footprint Network, which calculates overshoot data. With population growth and increasing consumption, Earth Overshoot Day has moved from late September in 2000 to August 8 this year.

Which of the following is a valid logical inference from the above passage?

1. While economies, populations and resource demands grow, the size of Earth and its natural resource base remains the same.
2. Earth ecosystems are on the verge of degradation and would possibly end up collapsing.

Select the correct answer from the codes given below:

- A. 1 only
- B. 2 only
- C. Both 1 and 2
- D. Neither 1 nor 2

Answer: C

Exp:

From the statement in the passage "Earth Overshoot Day has moved from late September in 2000 to August 8 this year" it can be inferred that more consumption is occurring in less time and thus statement 1 also is a valid inference.

As the passage mentions that the world exhausted nature's budget of natural resources for the entire year on August 8 itself due to increased consumption and population, statement 2 is a valid inference.

Hence, the correct answer is option c.

Q7. In today's world, everybody is of the opinion that he has no social superiors since all men are equal, but he does not admit that he has no social inferiors, for, from the time immortal, the doctrine that all men are equal applies only upwards and not downwards.

Which one of the following expresses the view implied in the above statement?

- A. Equality is finally reaching out to the world.
- B. The disappearance of class distinction is far from complete.
- C. Socially, everyone is equal.
- D. Equality in human society is a flawed principle.

Answer: B

Exp:

Option (a) contradicts the passage.

Option (c) is a generic statement that does not touch the main thread of the passage.

Option (d) fails to grasp the crux of the passage.

Option (b) correctly picks the theme of the passage that a class distinction still remains, although not apparent.

Hence, the correct answer is option b.

Q8. An aeroplane flies along the four sides of a square at a speed of 100, 200, 300 and 400 km/hr, respectively. What is the average speed of the plane in its flight around the square?

- A. 196 km/hr
- B. 200 km/hr
- C. 250 km/hr
- D. None of the above

Answer: D

Exp:

$$\text{Average speed} = \frac{\text{Total distance}}{\text{Total Time}}$$

$$= \frac{X+X+X+X}{\frac{X}{100} + \frac{X}{200} + \frac{X}{300} + \frac{X}{400}}$$

$$= \frac{4X}{\frac{12X+6X+4X+3X}{1200}}$$

$$= \frac{4X \times 1200}{25X} = 192 \text{ km/hr}$$

Q9. At what rate of percent per annum calculated in simple interest will a sum of money double itself in 10 years?

- A. 12.5%
- B. 10%
- C. 15%
- D. None of the above

Answer: B

Exp: Let the rate of interest = R%

P = x

A = 2X

SI = A - P = 2x - x = x

T = 10 years

$$R\% = \frac{100 \times SI}{p \times t} = \frac{100 \times x}{x \times 10} = 10\%$$

Q10. The number of bacteria in a certain culture doubles every hour. If there were 30 bacteria present in the culture originally, how many bacteria will be present at the end of n^{th} hour?

- A. $30 \times 2^{n-1}$
- B. 60^{n-1}
- C. 30×2^n
- D. 60^n

Answer: C

Exp: None

Q11. What is the least value of n such that $(1 + 3 + 3^2 + \dots + 3^n)$ exceeds 2000?

- A. 7
- B. 5
- C. 8
- D. 6

Answer: C

Exp:

$$\begin{aligned} \text{Sum of } 1+3+3^2+ \dots +3^n \\ &= \frac{3^{n+1}-1}{3-1} > 2000 \\ &\Rightarrow 3^{n+1} > 4000 \Rightarrow n = 8 \end{aligned}$$

Q12. How many times are the hands of a clock at right angle in a day?

- A. 22
- B. 24
- C. 44
- D. 48

Answer: C

Exp: None

Q13. Three men start together to travel the same way around a circular track of 22 km. Their speeds are 5.5, 4 and 2 kmph respectively. When will they meet at the starting point for the first time?

- A. 33 hours
- B. 22 hours
- C. 44 hours
- D. 11 hours

Answer: C

Exp:

Time after which they will meet at the starting point

= LCM of time taken by three person to complete one round of circle.

$$\begin{aligned} &= \frac{22}{5.5}, \frac{22}{4} \text{ and } \frac{22}{2} \\ &= 4, \frac{11}{2}, 11 \\ &= \frac{\text{LCM of } 4, 11, \text{ and } 11}{\text{HCF of } 1, 2 \text{ and } 1} \\ &= 44 \text{ hours} \end{aligned}$$

Q14. In the series AABABCABCDABCDE which letter occupies the 100th position?

- A. H
- B. I
- C. J
- D. K

Answer: B

Exp:

Given series is A/AB/ABC/ABCD/ABCDE ... i.e. 1+2+3+4+5+6+7+

When we proceed in the same manner, we get

$$1+2+3+4+5+6+7+8+9+10+11+12+13 = 91$$

$$\therefore 91 + 9 = 100^{\text{th}} \text{ number}$$

From the beginning of the alphabetical series, 9th alphabet is I.

Q15. One of the angles of a triangle is two-third of the sum of the adjacent angles of a parallelogram. The remaining angles of the triangle are in the ratio 5:7. What is the value of the second largest angle of the triangle?

- A. 25°
- B. 40°
- C. 35°
- D. Cannot be determined

Answer: C

Exp: Sum of adjacent angles of a parallelogram = 180°

$$\therefore \text{One of the triangles} = \frac{2}{3} \times 180 = 120^\circ$$

$$\text{Sum of remaining two angles} = 180^\circ - 120^\circ = 60^\circ$$

$$\therefore \text{Second largest angle} = \frac{7}{12} \times 60 = 35^\circ$$

Paragraph: DIRECTIONS for Questions 16 to 18 (3 items)- Read the following passage and answer the items that follow. **PASSAGE 1-** Should the Indian Standard Time (IST) be advanced? Stating that such a change is the need of the hour, city scientists have said that advancing the IST by half an hour will save energy by up to three billion units every year. The time zone for India is based on 82.5° E longitude, passing through Mirzapore, U.P. This makes us five hours and 30 minutes ahead of the Coordinated Universal Time (UTC), based on the prime meridian. This is defined as the Indian Standard Time (IST), and has been our official time since independence in 1947. Prof Dilip Ahuja and Prof D P Sen Gupta from National Institute of Advanced Studies have now suggested a change in IST to six hours ahead of UTC, instead of the present five-and-a-half hours. This would shift the longitude on which IST is based from 82.5° E to 90° E longitude at Bengal-Assam border. "Though the savings may appear insignificant considering the total energy consumption of the country, the energy demand in the evenings due to domestic lighting will be reduced by about 16 per cent. The economic and operational benefits cannot be ignored. And a saving of about Rs 1500 crore per annum for the nation is not insignificant," said Prof Ahuja in an official release. "From West to East, India spans from 68° 7' E to 97° 25' E of the 0° longitude or the prime meridian. A spread of more than 29° implies almost two hours time difference in sunrises and sunsets between east and west part of the country. However, it is essential for a country to follow a standardised time so that offices, transport systems and communication systems can function smoothly. The current IST (UTC+5:30hrs) means that people in northeastern states have to work late into the dark, even though sun rises and sets early in their region. The current IST generates a heavy load in electricity, especially in the evenings which most companies find hard to meet and imposes substantial economic loss to the nation," argued the authors.

One of the intangible benefits, according to the authors, would be reduction in crime. "The political impact of mainstreaming the northeast by advancing IST would also be favorable," they added. Some disadvantages of the new scheme, according to the scientists, are sending children to school in the dark winter mornings, especially in the north and northwest. Introducing summer and winter times for schools is a feasible solution, they said. "Companies that work in conformity with the US timing may need to adjust. The delays for early morning flights due to fog may worsen. A major hurdle to the adoption of this proposal may be the conservative nature of the bureaucracy, which prefers risk avoidance to untried solutions. The change has to be made only once and with sufficient planning, a year is all we would need for everything to settle in," they said.

PQ16. The passage says that IST should be advanced by half an hour. Which of the following is NOT a valid reason to do this?

- A. It would reduce the energy demand in the country in evenings due to domestic lighting.
- B. It would reduce crime.
- C. It would mainstream the north-eastern states and would result in a favourable political impact.
- D. It could increase the overall working hours and boost national productivity.

Answer: D

Exp:

Options (a), (b), and (c) are corroborated by the passage as being the reasons for advancement of IST. A boost to national productivity in relation to advancement of IST is not discussed or hinted at in the passage and is not a valid reason behind IST advancement according to the passage.

Hence, the correct answer is option d.

PQ17. According to the passage, the most suitable reason to overlook the side effect of sending children to school in the dark winter mornings and go ahead with IST advancement is because

- A. A feasible solution for this particular side effect is available and advantages of IST advancement outnumber its disadvantages.
- B. Bureaucracy, which will take a decision on IST advancement is least concerned about the inconvenience faced by children
- C. The problem will be faced by children in northern India while other parts of India will be unaffected.
- D. Children should learn and should be taught to adjust to their environment right from an early age.

Answer: A

Exp:

The passage lists the problem discussed in the question and immediately discusses a feasible solution to it. Also the author encourages going ahead with IST advancement and has listed more advantages than disadvantages of it. Thus, option (a) is valid.

Bureaucracy being unconcerned about the plight of children is not corroborated by the passage and hence option (b) is eliminated.

Since the passage has mentioned a solution to the given problem, option (c) is not a valid answer. Option (d) is not corroborated by the passage.

Hence, the correct answer is option a.

PQ18. According to the passage, bureaucracy is likely to create hurdles in IST advancement. According to the author, which of the following is NOT a valid reason for bureaucratic apathy?

- A. Conservativeness of bureaucracy
- B. Risk-avoiding bureaucratic tendency

C. Bureaucratic aversion to untried solutions

D. Bureaucratic apprehension about increased workload after IST advancement

Answer: D

Exp:

Options (a), (b), and (c) are the reasons behind bureaucratic apathy as is clearly evident from the following line, "A major hurdle conservative nature of the bureaucracy.....risk avoidance to untried solutions."

Option (d) is not corroborated by the passage and thus is not a valid reason presented in the passage.

Hence, the correct answer is option d.

Paragraph: DIRECTIONS for Questions 19 to 20 (2 items)- Read the following passage and answer the items that follow. PASSAGE 2- Government will soon provide universal insurance cover to all those who get injured in road crashes so that they are not deprived of immediate medical care. In a significant move, the road transport ministry in its proposed amendments to the Motor Vehicles Act has provisioned for a fund that will ensure free treatment of grievously injured victims. The amendment bill has proposed setting up a motor vehicle accident fund, which will be used for medical expenses of grievously hurt persons till they stabilise. The provision gains importance considering the fact that at least five lakh people were left injured in road crashes last year and according to government reports at least 50% lives can be saved, if they get quick medical care within the first one hour of a crash. Road crashes claimed 1.46 lakh lives in 2015. According to the bill, the fund can be created by collecting certain cess or tax, any grant or loan made by the central government or any other source of finance as may be prescribed by the government. "The fund shall be constituted for the purpose of providing compulsory insurance cover to all road users in the territory of India," it says. The bill states the fund shall be utilised for treatment of grievously hurt persons, for paying compensation to representatives of persons killed or seriously hurt in hit and run motor crashes. Government would come out with the maximum liability amount that shall be paid in each case. The bill also provisions that the central government shall launch a scheme for cashless treatment of victims of the road crashes during the golden hour (first hour of crashes). The focus has to be on setting up trauma care centres that are close to roads and highways. Though for long the government has laid emphasis on building specialised trauma care centres all along the golden quadrilateral, not much has happened so far.

PQ19. With reference to the above passage, consider the following statements:

Road accidents kill more number of people in India per year than heart disease and cancer combined.

A lot of road accident victims in India lose their lives because of lack of medical assistance in the first hour after the accident.

The proposed bill if passed and implemented properly is likely to bring down road fatalities.

Which of the above statements is/are correct?

A. 1 only

B. 1, 2 and 3

C. 2 only

D. 2 and 3 only

Answer: D

Exp:

There is no data available in the passage about the deaths due to heart disease or cancer and thus statement 1 is incorrect.

Statement 2 is correct as it is well supported by the passage.

Implementation of the bill is likely to result in accident victims getting quick medical care which

will bring down fatalities as per the passage and hence statement 3 is correct.
Thus, only statements 2 and 3 are correct.
Hence, the correct answer is option d.

PQ20. With reference to the above passage, the following assumptions have been made:
Trauma care centres along the highways play an important role in reducing road fatalities.
Medical expenses should not be a critical issue in treatment of road accident victims.
Which of the above is/are valid assumption/assumptions?

- A. 1 only
- B. 2 only
- C. Both 1 and 2
- D. Neither 1 nor 2

Answer: A

Exp:

The focus of the passage is on reducing road accident fatalities and it is mentioned in the passage that focusing on trauma care centers is essential in this regard. Thus, importance of trauma care centres in saving lives is clearly assumed in the passage and statement 1 is a valid assumption.

The passage underlines the need to set up an accident fund, which will be used for medical expenses of grievously hurt persons till they stabilise indicating that medical expenses is an area that needs attention. Thus, statement 2 is not a valid assumption.

Thus, only 1 is (a) valid assumption.

Hence, the correct answer is option a.

Q21. Consider the following statements followed by two conclusions:

Statements:

- 1. Some pens are pencils.
- 2. Some pencils are cows.

Conclusion:

- (I) Pencils are either pens or cows.
- (II) Some pens are cows.

Which one of the following is correct?

- A. Conclusion I is valid
- B. Conclusion II is valid
- C. Both the conclusions are valid
- D. None of the conclusion is valid.

Answer: D

Exp:

If cows and pens partially intersect pencils, there can be some part of the set of pencils which is neither in pens nor in cows.

Hence, conclusion I may not follow.

Also, the set of pens may not intersect with cows at all.

Hence, conclusion II may not follow.

Hence, neither conclusion follows.

Hence, option d.

Q22. Consider the following statements:

- 1. Some apples are bananas.
- 2. All bananas are oranges.
- 3. No oranges are lemons.

From the above three statements it may be concluded that

- A. Some apples are lemons.
- B. All lemons are apples.
- C. All apples are oranges.
- D. No bananas are lemons.

Answer: D

Exp: None

Paragraph: DIRECTIONS for Questions 23 to 25 (3 items)- Read the following passage and answer the items that follow. **PASSAGE 3-** The biggest stimulus to Kerala's economic growth comes from the remittances sent by its migrant workers, mostly skilled and working in West Asian countries. According to an estimate by the State government, 1.4 million Keralites were working outside the State in 2011. At the same time, a rising stream of migrant workers from other States, mainly Bihar, West Bengal and Odisha, meets the large demand for unskilled labour in Kerala. Estimates by the Gulati Institute of Finance and Taxation show that migrant labourers in Kerala from other States numbered approximately 2.5 million in 2011. This was close to 20 per cent of Kerala's total workforce (12.7 million) at that time.

Clearly, a major drawback of economic growth in Kerala today is that it is not generating enough jobs to meet the expectations of educated Keralites entering the labour market. There are worrying signals of growing inequalities. In 2011-12, per capita consumption expenditure of the richest 5 per cent was almost six times the per capita consumption expenditure of the poorest 5 per cent in the case of Kerala as compared to around five times for India as a whole. The increasing presence of the private sector in health and education is a threat to the gains made by the State in these areas during the earlier years. With rising wages and education levels of its workforce, industries relying exclusively on cheap labour shifted out of Kerala. When faced with a similar situation, East Asian countries like South Korea and Singapore consciously upgraded their economic structures, shifting to more advanced industries and services. Kerala too has to chart out new economic activities which make use of its unique strengths: an educated workforce, democratic institutions, and a favourable natural environment. Kerala's cities cannot, and perhaps should not, compete with Bengaluru or Hyderabad as hubs for information technology or knowledge industries.

PQ23. What is the prime concern of the author in the above passage?

1. Kerala does not have jobs good enough for its educated Keralites.
2. Industries shifting out of Kerala due to their inability to meet the expenses of the educated Keralites.
3. The migrant workers encroaching upon the employment space of Kerala.

Select the correct answer from the codes given below:

- A. 1 only
- B. 1 and 2 only
- C. 1 and 3 only
- D. 1, 2 and 3

Answer: B

Exp: Statement 1 can be inferred from, "Clearly, a major.... labour market."

Statement 2 can be inferred from, "With rising wages and education levels of its workforce, industries relying exclusively on cheap labour shifted out of Kerala. "

The issue raised in the passage is that the skilled and educated workers have not been able to find jobs that meet their expectations. The migrant workers are not encroaching upon the employment space but taking up available jobs which do not require skill. Hence, statement 3 cannot be inferred.

Hence, the correct answer is option b.

PQ24. According to the passage, the growing inequalities are about:

- A. The gap between the jobs available and the expectations of educated Keralites.
- B. The gap between the supply and demand of skilled workers.
- C. The gap between educated and uneducated labourers.
- D. The gap between the incomes of the richest and the poorest.

Answer: D

Exp:

The lack of jobs that would meet the expectations of educated Keralites cannot be called as an inequality as it is a situation being discussed in the passage. So, eliminate option (a).

There is no gap between the supply and demand of skilled workers as according to the passage there is no demand for skilled labourers.

The passage does not mention anything about the gap between educated and uneducated labourers.

The sentence, "In 2011-12, ... India as a whole." there is sufficient evidence to deduce that there exists an income gap between the rich and the poor. So, option (d) is validated.

Hence, the correct answer is option d.

PQ25. According to the passage, the following can be done by Kerala to boost its economy:

- 1. Create public spaces such as libraries and parks where people can freely exchange ideas.
- 2. Panchayats and other local bodies must find ways in which the growth of the agricultural and tourism sectors can enrich each other.
- 3. Private healthcare services should be provided in most of the hospitals for better facilities to patients.

Which of the statements given above is/are correct?

- A. 1 only
- B. 1 and 2 only
- C. 1 and 3 only
- D. 1, 2 and 3

Answer: B

Exp:

The sentence, "Kerala too has... knowledge industries." suggests statements 1 and 2 as the correct initiatives that can be taken up by Kerala to boost its economy.

Statement 3 is not a suitable initiative as it encourages the expansion of private sector which is shown to be threat to the economy of Kerala in the passage.

Hence, the correct answer is option b.

Q26. The average score of a class of boys and girls in an examination is K. The ratio of boys and girls in the class is 5:2. If the average score of the boys is K+1, what is the average score of the girls?

- A. $K + 1.5$
- B. $K + 2.5$
- C. $K + 3$
- D. None of these

Answer: B

Exp:

Let the numbers of boys and girls be $5x$ and $2x$

Combined average =

Total score of boys+Total score of girls

$$K = \frac{5x(K+1) + 2xy}{5x+2x} \text{ (where y is average score of girls)}$$

$$7xk = 5xk + 5x + 2xy$$

$$7k = 5k + 5 + 2y$$

$$2k + 5 = 2y$$

$$= y = \frac{2K+5}{2}$$

$$= K + 2.5$$

Q27. Six books X, Y, Z, W, M and N are placed side by side. Y, Z and M have blue cover and the other books have red colour. Only W and N are new books and the rest are old. X, Z and W are law reports and others are gazettes. What book is a new law report with a red colour?

- A. X
- B. Y
- C. Z
- D. W

Answer: D

Exp:

Blue	Red	New Book	Old Book	Law Reports	Gazette
Y	X	W	Y	X	Y
Z	W	N	Z	Z	M
M	N		M	W	N
			X		

Q28. A man fills a basket with mangoes such a way that the number of mangoes added on each successive day is the same as the number already present in the basket. This way the basket gets completely filled in 32 days. After how many days, the basket was 1/16th full?

- A. 2
- B. 13
- C. 28
- D. 16

Answer: C

Exp:

32	31	30	29	28	No of days
				→	
1	$\frac{1}{2}$	$\frac{1}{4}$	$\frac{1}{8}$	$\frac{1}{16}$ →	Part of mangoes in basket

Q29. Each employee's performance compared with all other employees is to be done to rank them subjectively in an office. How many comparisons are needed in total, if there are 11 employees?

- A. 10
- B. 45
- C. 55
- D. 11

Answer: C

Expl:

$$10+9+8+7+6+5+4+3+2+1$$

$$= \frac{10 \times 11}{2} = 55$$

Q30. A sum of money lent out at simple interest amounts to Rs. 720 after 2 years and to Rs. 1020 after a further period of 5 years. Find the rate of interest.

- A. 8%
- B. 10%
- C. 12%
- D. 15%

Answer: B

Exp:

In 2 years it amounts to Rs.720

In 7 years it amounts to Rs.1020

In 5 years interest added is Rs. 1020 – Rs. 720 = Rs. 300

$$\therefore \text{Interest in 1 year} = \frac{300}{5} = \text{Rs. } 60$$

$$\therefore \text{Interest in 2 years} = 60 \times 2 = \text{Rs. } 120$$

$$\therefore P = 720 - 120 = \text{Rs. } 600$$

$$SI = \frac{P \times T \times R}{100}$$

$$60 = \frac{600 \times 2 \times r}{100}$$

$$= r = 10\%$$

Q31. If x is the simple interest on y and y is the simple interest on z, the rate of interest and the time being the same in both cases, what is the relation between x, y and z?

- A. $X^2=yz$
- B. $Y^2=xz$
- C. $Z^2=xy$
- D. $X^2=y$

Answer: B

Exp:

$$X = \frac{y \times t \times r}{100} \dots \dots (1)$$

$$Y = \frac{z \times t \times r}{100} \dots \dots (2)$$

Dividing equation (1) by equation (2)

$$\frac{x}{y} = \frac{y}{z}$$

$$Y^2 = xz$$

Q32. 'X' is twice as old as 'Y' 3 years ago, when 'X' was as old as 'Y' today. If the difference between their ages at present is 3 years, how old is 'X' at present?

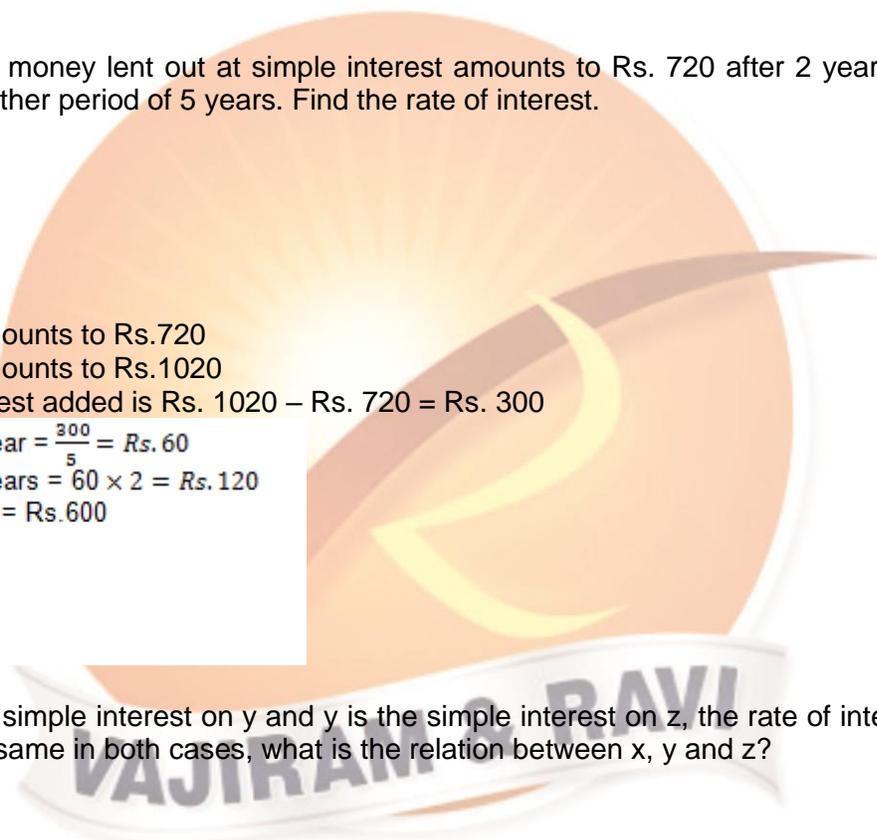
- A. 18 years
- B. 12 years
- C. 9 years
- D. 8 years

Answer: B

Exp:

Let present age of X = x year

And present age of Y = y year



By given condition

$$x - y = 3 \dots \dots (I)$$

$$x = 2(y-3) \dots \dots (II)$$

On solving the above equations, we get

$$Y = 9 \text{ year and } x = 12 \text{ years.}$$

Q33. Traffic lights at three different points are changing respectively at 24, 48 and 72 seconds. If all the three are changed together at 9:10:24 hours, then when will the next change take place together?

- A. 9 : 12 : 25 hours
- B. 9 : 10 : 48 hours
- C. 9 : 12 : 48 hours
- D. 9 : 10 : 50 hours

Answer: C

Exp:

LCM of 24, 48, 72 = 144 seconds = 2 minutes 24 seconds

∴ Required answer = 9 : 10 : 24 + 2 minutes 24 seconds
= 9 : 12 : 48 hours

Paragraph: DIRECTIONS for Questions 34 to 37 (4 items)- Study the following information carefully and answer the questions given below:

A, B, C, D, E, F, G and H are eight friends travelling in three different Cars Viz. X, Y, Z with at least two in one car to three different places viz. Delhi, Chandigarh and Agra. No car carries more than three persons.

There is at least one female member in each car. D is travelling with G to Delhi but not in Car Y. A is travelling with H only in car Z but not to Chandigarh. C is not travelling with either D or E. F and D are studying in the same only girls college. H, B and G are studying in the same only boys college.

PQ34. Which of the following represents the group of females?

- A. F, C, A
- B. F, G, A
- C. D, C, A
- D. Data inadequate

Answer: D

Exp: None

PQ35. Which of the following combinations is correct?

- A. Delhi – S – C
- B. Chandigarh – X – F
- C. Delhi – Y – E
- D. None of these

Answer: D

Exp: None

PQ36. In which of the following cars is C travelling?

- A. X
- B. Y
- C. Z
- D. Data inadequate

Answer: B

Exp: None

PQ37. Which of the following cars is carrying people to Chandigarh?

- A. Y
- B. X
- C. Either X or Y
- D. Data inadequate

Answer: A

Exp:

X (Delhi)	Y (Chandigarh)	Z (Agra)
D (-)	C	A (-)
G (+)	F(-)	H(+)
E	B(+)	

Q38. If first day of the year 2011 was a Monday, what will be the last day of year 2020?

- A. Sunday
- B. Wednesday
- C. Friday
- D. Saturday

Answer: D

Exp:

From 1st Jan 2011 to 1st Jan 2021 total no. of years 10 (3 Leap years, 7 Non Leap years)

No. Of odd days 13, effective odd days 6

So if 1st Jan 2011 was Monday then 1st Jan 2021 will be Sunday, 31st Dec 2020 Saturday.

Q39. In a certain code 'EL' is written as '37', 'MON' is written as '39'. How would 'FIR' be written in that code?

- A. 37
- B. 51
- C. 41
- D. 48

Answer: D

Exp:

E is 5th alphabet, ranking from last is 22nd

L is 12th alphabet. Ranking from last is 15th

So, 22 + 15 = 37

Similarly

M is 13th alphabet, ranking from last is 14th

O is 15th alphabet, ranking from last is 12th

N is 14th alphabet, ranking from last is 13th

So 14+12+13 = 39

Rank of F from last 21st

Rank of I from last 18th

Rank of R from last 9th

21 + 18 + 9 = 48

Q40. Consider the diagram given below in which the numbers bear certain relationship among themselves:

4	56	2
9	728	X
7	279	4

- A. 5
- B. 2
- C. 1
- D. 3

Answer: C

Exp:

Horizontally

$$4^3 - 2^3 = 56$$

$$7^3 - 4^3 = 279$$

$$\text{Similarly, } 9^3 - X^3 = 728$$

Paragraph: DIRECTIONS for Questions 41 and 42 (2 items)- Each of the following two items consists of four statements. Of these four statements, two cannot both be false, but both can be true. Study the statements carefully and identify the two that satisfy the above condition. Select the correct answer using the codes given below each set of statements:

PQ41. Examine the following statements:

1. All trucks are buses.
2. Some trucks are buses.
3. No trucks are buses.
4. Some trucks are not buses.

Select the correct answer using the codes given below:

- A. 1 and 3 only
- B. 3 and 4 only
- C. 1 and 2 only
- D. Both (b) and (c)

Answer: D

Exp: None

PQ42. Examine the following statements:

1. All policemen are soldiers.
2. Some policemen are not soldiers.
3. Some policemen are soldiers.
4. No policemen are soldiers.

Select the correct answer using the codes given below:

- A. 1 and 4
- B. 2 and 3
- C. 3 and 4

D. 1 and 3

Answer: D

Exp: None

Paragraph: DIRECTIONS for Questions 43 to 46 (4 items)- Read the following passage and answer the items that follow. **PASSAGE 4** Non-communicable diseases (NCDs) linked to lifestyles have surpassed communicable diseases as the leading cause of lost productivity and premature deaths. According to a report, NCDs contribute to 52 per cent of all disease burden and more than 60 per cent of deaths in India. Cardiovascular diseases, cancer, tuberculosis and other causes linked to tobacco consumption result in over a million deaths every year. Tobacco-related deaths are expected to double by 2030, nearly 65 million Indians have been diagnosed with diabetes, and the “average age of a person having their first heart attack is 50 years, at least ten years earlier than in developed countries.” Responding to this escalating situation the Central Government has come up with a National Action Plan and Monitoring Framework for Prevention and Control of NCDs. Given the rising toll of ‘lifestyle’ diseases, operational guidelines have been issued this year for population-level screening to detect diabetes, hypertension and common cancers. The guidelines focus on triggers for these diseases found in the choices that people make, but it is not clear how such an ambitious scheme would actually work at the level of the entire population, since the lead would have to be taken by State governments. Lifestyle risk factors are everyday choices in some cases, but they are also the outcome of poorly conceived official policies. Smoking or chewing tobacco, excessive consumption of alcohol, and a preference for highly processed foods are voluntary choices with a direct, harmful impact on health. But what choice do citizens have, if cities expand at the cost of walking, exercising and cycling? If city governments are more sensitive to petrol and diesel prices, and road building than to pedestrian facilities and public transport? Such cities end up curbing healthy physical activity and promoting car use, adding to the burden of air pollution caused by burning of biomass and unchecked construction dust. Bad urban planning thus produces a cocktail of risk factors for NCDs, affecting millions. Cities have not read the warning yet. Public spaces lack green cover, and low-cost access to roads and parking for a large number of vehicles is given priority. Policymakers must alter course through progressive steps. The cost of inaction will certainly be high.

PQ43. According to the passage, which of the following is/are causes of spread of non-communicable diseases in India?

1. Ill-conceived official policies that allow cities to grow at the cost of walking spaces and green cover.
2. Bad eating habits and other lifestyle choices made by people.
3. Genetic predisposition of Indians to non-communicable diseases.
4. Air pollution and construction dust in urban cities.

Select the correct answer using the code given below:

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

Answer: D

Exp:

Statements 1, 2, and 4 directly mentioned in the passage as possible causes for rise in spread of non-communicable diseases in India. Genetic predisposition being the cause is not corroborated by the passage and thus statement 3 is eliminated. Hence, the correct answer is option d.

PQ44. In this passage, the author puts the responsibility for spread of non-communicable diseases in India partly on official policies because of:

1. Author feels some lifestyle choices made by people are actually forced on them due to poorly conceived official policies.
2. Government policies are focussed entirely on prevention of communicable diseases.
3. Official policies refusing to accept the intensity of the situation of the spread of non-communicable diseases.

Select the correct answer using the code given below:

- A. 1 only
- B. 1 and 2 only
- C. 3 only
- D. 1, 2 and 3

Answer: A

Exp:

Statements 2 and 3 being the characteristics of official policies is not corroborated by the passage.

Statement 1 is supported by the passage in the line, ".....But what choice do citizens have, if cities expand at the cost of walking.....".

Thus, only statement 1 is correct.

Hence, the correct answer is option a.

PQ45. According to the passage, it can be inferred from the passage that the spread of non-communicable diseases is likely to hurt India because of:

1. Premature deaths
2. Lost productivity

Select the correct answer using the code given below:

- A. 1 only
- B. 2 only
- C. Both 1 and 2
- D. Neither 1 nor 2

Answer: C

Exp:

Both 1 and 2 are the areas in which NCD spread will hurt India as can be inferred from the line "Non-communicable diseases (NCDs) linked to lifestyles.....lost productivity and premature deaths."

Hence, the correct answer is option c.

PQ46. Which of the following is most essentially discussed in the passage?

- A. The latest statistics on communicable and non-communicable diseases in India and their implications.
- B. Transition of Indian population from healthy dietary habits to poor lifestyle choices.
- C. The spread of lifestyle diseases in India and the need for urgent remedial action.
- D. Non-communicable diseases, adversely impacting the productivity of the working population and increasing the probability of premature death.

Answer: C

Exp:

The passage is discussing rapid growth in NCDs or lifestyle diseases and the underlying reasons behind the spread. The later part of the passage reflects the urgency in the voice of the author to mitigate the problem in hand. This is correctly captured in option (c).

Option (a) is incomplete as the passage does not restrict itself to statistics alone.

Option (b) is incomplete as it does not elaborate on NCD rise and its control.

Option (d) is also incomplete as it does not mention the need to curb NCD rise. Hence, the correct answer is option c.

Q47. While the benefits of exercises are known to everyone, many tend to give the morning fitness regime a miss due to the heavy work schedule or late-nights. However, morning workouts have more benefits than any other workout during the day - from controlling the weight, enhancing the mood and keeping you fit and healthy. Did you know it also helps you find your creative gene? Whether it is in just writing an article, painting a canvas or churning out ideas for your office meeting; physical activity activates the creative juices and once they start flowing, there is nothing to stop you.

Which among the following is the most logical corollary to the above passage?

- A. One should not exercise in the evenings as it is an inefficient practice for weight control.
- B. Exercise in the morning is the best way to improve your creativity.
- C. Exercise gives best results in the morning as there is less noise during that time.
- D. One should find time in the morning for exercise as it is likely to improve one's performance in the workplace.

Answer: D

Exp: According to the passage, evenings are not as effective as mornings for exercise, but that does not necessarily mean that evenings are totally ineffective. Thus, option (a) is eliminated.

According to the passage, exercising in morning is one of the ways of enhancing creativity, but it being "the best way" is not corroborated by the passage. Thus, option (b) is eliminated.

The reason behind exercise being effective in the morning is not discussed in the passage and thus option (c) is eliminated.

According to the passage, morning exercise enhances mood, activates the creative juices, and even helps one churn out ideas for office meeting. From this, morning exercise helping one's performance in the office is a logical corollary. Hence, the correct answer is option d.

Q48. Creating a culture where the employees experience the psychological safety to own up errors can be the greatest contribution of a leader in the workplace. To invent you have to experiment, and if you know in advance that it's going to work, it's not an experiment. Most large organizations embrace the idea of invention, but are not willing to suffer the string of failed experiments necessary to get there. This needs a very fundamental change in the way we view failure and innovation.

What is the most critical inference that can be made from the above passage?

- A. A good leader does not shy away from acknowledging failure as a stepping stone to innovation.
- B. No one has ever tasted success without facing failure even once.
- C. A dedicated employee reports his/her errors to the senior to contribute to the success of the organization.
- D. It is advisable to learn from other people's mistakes than to make them yourself.

Answer: A

Exp:

Option (b) is too extreme as can be noticed from the words "No one has ever" and "even once", and does not necessarily follow from the passage.

Option (c) is incorrect as the passage says that it is the job of the leader to ensure that employees feel safe to expose their errors.

Option (d) is incorrect as the passage is hinting at learning from one's own mistakes as is evident from the line "the psychological safety to own up errors....."

The passage indicates that innovations are possible through experimenting and failures are an integral part of that process and thus only a good leader can acknowledge this. In light of this, option (a) is a valid inference. Hence, the correct answer is option a.

Q49. If you look at the emotions shown by the silver and bronze medallists, the bronze medallists tend to be happier than the silver medallists. Counterintuitive? It has to do with something known in psychology circles as 'counterfactual thinking', or the tendency we all have to imagine alternatives to reality — the 'what ifs?' and 'if onlys'. Emotional responses to outcomes often are influenced by what might have been and such type of counterfactual thinking often ends in regret. An often-cited example is missing a flight by 5 minutes or by 45 minutes. People who just barely miss their flight tend to kick themselves more than those who missed it by a mile. For the silver medallist, the obvious counterfactual alternative is capturing the gold. To the bronze medallist, it is finishing without a medal. In other words, the silver medallists think about how close they came to winning gold whereas the bronze medallists think about how close they came to not winning any medal. So, silver medallists compare themselves to only one athlete, the winner, whereas bronze medallists compare themselves to all the competitors who didn't place in the top three.

With reference to the above passage, which of the following is the most valid assumption?

- A. Happiness or the lack of it, at times, is a relative thing and not absolute.
- B. Happiness is decided not by where you stand but where you come from.
- C. There is not much difference in the happiness levels of the gold, silver, and bronze medalists.
- D. Happiness as an emotion is an eccentric thing.

Answer: A

Exp:

The passage is elaborating on how happiness can be related to the performance or achievements of others and not entirely on one's own achievements. This underlying assumption is captured best in option 'a'.

Option 'b' is invalid as the passage is not talking about the comparison between one's achievements and one's background but that between achievements of one with one's peer group.

Option 'c' is invalid since it is not corroborated by the passage as, for example, comparison between gold and silver medallist is not discussed in the passage.

Happiness being irregular or odd is not hinted at in the passage necessarily and hence option 'd' is eliminated.

Hence, the correct answer is option a

Paragraph: DIRECTIONS for Questions 50 to 53 (4 items)- Read the following passage and answer the items that follow. **PASSAGE 5** India has passed a number of laws on child labour since Independence. Article 24 of the Constitution prohibits employment of children below the age of 14 in factories, mines, and other hazardous employment. Article 21A and Article 45 promise to provide free and compulsory education to all children between the ages of 6 and 14. In 2009, India passed the Right of Children to Free and Compulsory Education Act (RTE). But the amendments in the new law make it practically impossible to implement the RTE. Its clauses put such a burden on poor low-caste families that instead of promoting education, the Act actually increases the potential for dropouts. And parents, scared of the huge fines that they may have to pay for employing their children, are likely to lie about school attendance and may unwillingly comply with contractors in employing them.

A number of laws have also addressed what to include and omit in the list of hazardous occupations. In 1986, the Child Labour (Prohibition and Regulation) Act had prohibited the employment of children below the age of 14 in hazardous occupations identified in a list by the law. After much discussion and expansion, the list included 83 occupations. The National Policy on Child Labour of 1987, implemented in 1988, adopted a gradual approach that combined the strict enforcement of laws on child labour with development programmes to address the root

causes of child labour like caste and poverty. It focussed on the rehabilitation of children working in hazardous occupations.

PQ50. The author's central focus is on which of the following?

- A. Applauding India's efforts in curbing the issue of child labour and illiteracy in rural areas.
- B. Emphasizing the need for reforms that address the root causes of child labour.
- C. Highlighting the flaws in various child labor related laws passed by Indian Constitution.
- D. Emphasizing the need for awareness about the condition of children in Indian villages.

Answer: C

Exp:

The passage seeks to dig out flaws in the laws passed by the Indian government to curb child labour and improve the conditions of children of poor families who are devoid of education and are forced to work in order to earn a living. This validates option (c).

Option (a) is contrary to the theme as the author concentrates on highlighting the flaws.

Option (b) is incorrect as the passage states that an approach that combined the enforcement of laws with development programmes is needed.

Option (d) is beyond the scope of the passage as public awareness is not discussed anywhere in the passage.

Hence, the correct answer is option c.

PQ51. According to the passage, the amendments in the RTE Act has led to:

- 1. Children clandestinely skipping school to cater to their family's financial needs.
- 2. Children conspicuously working for employers instead of attending schools.
- 3. Shrinking of family income as parents cannot employ children.

Select the correct answer from the codes given below:

- A. 1 only
- B. 2 only
- C. 1 and 3 only
- D. 1, 2 and 3

Answer: A

Exp:

The passage states that, "And parents, scared of the huge fines that they may have to pay for employing their children, are likely to lie about school..." which indicates that parents make their children work secretly or clandestinely to avoid huge fines. This vindicates statement 1.

Statement 2 is contrary to the explanation presented above. So, eliminate statement 2.

Statement 3 is incorrect as family income shrinking is not mentioned and families still secretly employing children is what is actually given in the passage.

Hence, the correct answer is option a.

PQ52. According to the passage, the National Policy on Child Labour of 1987, implemented in 1988

- 1. Focuses on general developmental programmes benefiting child labourers.
- 2. Is an improved version of the Right of Children to Free and Compulsory Education Act (RTE).

Select the correct answer from the codes given below:

- A. 1 only
- B. 2 only
- C. Both 1 and 2
- D. Neither 1 nor 2

Answer: A

Exp:

Statement 1 can be inferred from the line, "The National Policy on Child Labour of 1987, ... caste and poverty."

Statement 2 is incorrect as the RTE act per se did not have any flaw but failed successful implementation due to the amendments made in the act. Also, the passage does not compare the two laws.

Hence, "improved version" in statement 2 cannot be corroborated from the passage.

Hence, the correct answer is option a.

PQ53. Which of the following can be inferred from the passage?

A. A child of 18 years of age working in a factory can be convicted under Article 24 of the Constitution.

B. Child Labour (Prohibition and Regulation) Act prohibited the employment of children below the age of 14 in 80 hazardous occupations.

C. The amendments in the new law further aggravated the conditions of poor families.

D. Children between the ages of 6 and 14 have been receiving free education under Article 21A.

Answer: C

Exp:

Option (a) is contradicted by "Article 24 of the Constitution prohibits employment of children below the age of 14 in factories, mines, and other hazardous employment."

Option (b) is contradicted by passage as it mentions 83 hazardous occupations.

Option (c) is validated by the sentence, "Its clauses put such a burden on poor low-caste families..."

Option (d) is incorrect as the passage only says that Article 21A promises to provide free education.

Hence, the correct answer is option c.

Q54. The ticket prices at an amusement park are first increased by 30% and then on the eve of Republic day a discount of 20% is offered. What is the overall change in ticket price as compared to the initial price (before increase in the price)?

A. No change

B. 10% increase

C. 10% decrease

D. 04% Increase

Answer: D

Exp: Let ticket price is Rs 100, increased by 30% means there is increase of Rs 30 in ticket price so new ticket price is Rs. 130. On the eve of Republic Day a discount of 20% on Ticket Price means 20% of 130 = 26 Rs. So final ticket price on republic day is $130 - 26 = 104$

Overall change is 4% increase in ticket price

Q55. A number series is given with one term missing. Choose the correct alternative that will continue the same pattern and replace the question mark in the given series.

5, 14, 40, 117, 347, ?

A. 1036

B. 1270

C. 1725

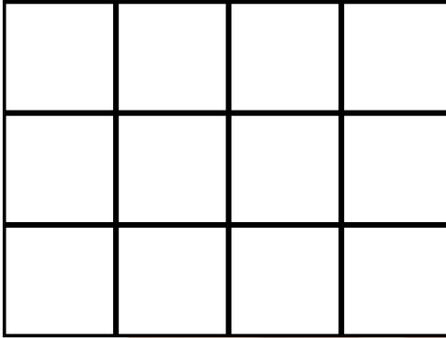
D. None of the above

Answer: A

Exp:

Pattern is
 $5 \times 3 - 1 = 14$
 $14 \times 3 - 2 = 40$
 $40 \times 3 - 3 = 117$
 $117 \times 3 - 4 = 347$
 $347 \times 3 - 5 = 1036$

Q56. Based on the diagram given below, consider the following statements:



1. There are maximum 60 rectangles in the figure.
2. There are maximum 20 squares in the figure.

Which of the above statement/s is/are *incorrect*?

- A. 1 only
- B. 2 only
- C. Both 1 and 2
- D. Neither 1 nor 2

Answer: D

Exp:

Both statements are correct

No. of rectangles $(1+2+3+4) \times (1+2+3) = 60$

No. of squares $(4 \times 3 + 3 \times 2 + 2 \times 1 + 1 \times 0) = 20$

Q57. Each of the six different faces of a cube has been coated with a different colour, i.e. red, blue, green, yellow, orange and purple. Following information is given:

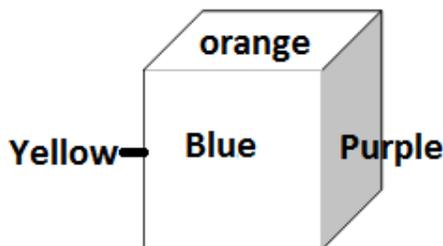
1. Colours yellow, orange and blue are on the adjacent faces.
2. Colour red, green and yellow are on the adjacent faces.
3. Colour blue, green and yellow are on the adjacent faces.
4. Colour orange, purple and blue are on the adjacent faces.

Which is the colour of the face opposite to the face coloured with purple?

- A. Orange
- B. Yellow
- C. Green
- D. Blue

Answer: B

Exp: We can solve this question with the help of statement no. (i) and (iv)



Q58. A number series is given with one term missing. Choose the correct alternative that will continue the same pattern and replace the question mark in the given series.

7, 26, 63, 124, 215, 342, ?

- A. 601
- B. 401
- C. 311
- D. 511

Answer: D

Exp:

Pattern is:

$$N^3 - 1$$

$$2^3 - 1 = 8 - 1 = 7$$

$$3^3 - 1 = 27 - 1 = 26$$

$$4^3 - 1 = 64 - 1 = 63$$

$$5^3 - 1 = 125 - 1 = 124$$

$$6^3 - 1 = 216 - 1 = 215$$

$$7^3 - 1 = 343 - 1 = 342$$

$$8^3 - 1 = 512 - 1 = 511$$

Q59. If one of the sides of a rectangle is increased by 20% and the other is decreased by 20%, find the percent value by which the area changes?

- A. 10% increase
- B. 10% decrease
- C. 4% increase
- D. 4% decrease

Answer: D

Exp:

$$\left[20 - 20 + \frac{20 \times (-20)}{100} \right] \% = -4\% \text{ (4\% decrease in the area)}$$

Q60. A cube of length 2 cm is taken out from a cube of length 7 cm. What is the weight of the remaining portion?

- A. 2/7 of the weight of original cube
- B. 8/343 of the weight of original cube
- C. 4/49 of the weight of original cube
- D. 335/343 of the weight of original cube

Answer: D

Exp:

Original Cube $7 \times 7 \times 7 = 343$ (original cube as 343 parts)

Removed part $2 \times 2 \times 2 = 08$ (removed parts 08)

Remaining Part $343 - 08 = 335$

So ratio of weight of remaining portion and Original cube is 335/343

Q61. Examine the following statements:

1. Either Amar and Baban are of the same age or Amar is younger than Baban.
2. Either Charu and Devang are of the same age or Devang is younger than Charu.
3. Baban is younger than Charu.

Which one of the following conclusions can be drawn from the above statements?

- A. Amar is younger than Baban.
- B. Baban and Devang are of the same age.
- C. Devang is younger than Charu.
- D. Amar is younger than Charu.

Answer: D

Exp:

Let a, b, c and d be the ages of Amar, Baban, Charu and Devang.

Statement (1) $\Rightarrow a \leq b$

Statement (2) $\Rightarrow d \leq c$

Statement (3) $\Rightarrow b < c$

$\therefore a < c$

\therefore Amar is younger than Charu.

Hence, option d.

Q62. All oranges are apple; some apples are grapes; some grapes are lemons; some lemons are melons and some melons are apple; some lemons are not melon.

Which of these conclusions does NOT follow from the given statements?

- A. Some grapes are oranges
- B. Some melons are oranges
- C. Some grapes are melons
- D. All lemons are melons

Answer: D

Exp:

One way of representing the given statements is shown below:

Apart from conclusion d, all the other conclusions follow from the figure itself.

Hence, option d.

Paragraph: DIRECTIONS for Questions 63 to 66 (4 items)- Read the following passage and answer the items that follow. PASSAGE 6- Mongolia's currency is on its longest losing streak on record as the government grapples to contain an economic crisis. Back in 2011, a mining boom helped make it the world's fastest growing economy with growth in gross domestic product of around 17.5%. But the tugrik lost about 7.8% of its value this month, making it the world's worst-performing currency, says Bloomberg data. It's been a rapid descent from grace for the central Asian nation, which neighbours China and Russia. The landlocked country has substantial untapped reserves of valuable minerals like gold, copper and coal. But then commodity prices collapsed. And so did demand from China, which buys 90% of Mongolia's exports. The government has since admitted that the country is "in a deep state of economic crisis". Finance Minister Choijilsuren Battogtokh said in a nationally televised address last week that they weren't able to afford to pay civil servants or the military. Making matters worse has been the government's inconsistent approach to investment laws and mining agreements, causing many foreign firms to rush for the exit. Foreign direct investment in Mongolia plummeted by 85% since 2011 to the first quarter of last year, according to the US State Department. The populist Mongolian People's Party won power in elections earlier this year after the public lost confidence in the long-ruling Democratic Party over its mishandling of the economy. However, it looks like a hard road ahead for Prime Minister Erdenebat Jargaltulgameans. Due to its cash shortage, Mongolia has borrowed massively and now owes dinosaur-sized interest payments of a debt load of nearly \$23bn. This has fuelled speculation that Mongolia could face a sovereign default or need a bailout.

PQ63. Which of the following factors is/are responsible for the economic crisis of Mongolia?

1. China's diminishing reliance on the imported goods from Mongolia
2. People's lack of trust in the ruling party of Mongolia
3. Accumulation of external debt

Select the correct answer from the codes given below:

- A. 1 only
- B. 3 only
- C. 2 and 3 only
- D. 1, 2 and 3

Answer: A

Exp:

Statement 1 can be inferred from "But then commodity prices collapsed. And so did demand from China, which buys 90% of Mongolia's exports."

Statement 2 is not a factor leading to the economic crisis as the people of Mongolia lost trust in the ruling government after facing the economic crisis.

Statement 3 is also not a factor as Mongolia started borrowing money after it went into the economic crisis.

Hence, the correct answer is option a.

PQ64. According to the passage, the following has/have led to the speculation that Mongolia could face a sovereign default or need a bailout:

1. Mongolian government's incapability of concluding agreements with foreign powers.
2. Mongolia seeking loans and financial assistance from other countries.
3. The falling currency of Mongolia.
4. Failure of Mongolia to fulfil its financial obligations.

Select the correct answer from the codes given below:

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

Answer: C

Exp:

Statement 1 is not a situation that would lead to a sovereign default or a bailout as the nature of the agreements is not known.

Statements 2 and 4 can be inferred from "Due to its cash shortage, Mongolia has borrowed massively and now owes dinosaur-sized interest payments of a debt load of nearly \$23bn."

Statement 3 is not a direct cause and cannot be directly linked to the bailout.

Hence, the correct answer is option c.

PQ65. Mongolia is called a landlocked country because:

- A. It is surrounded by non-contiguous borders.
- B. It has untapped reserves of resources.
- C. It is entirely enclosed by land.
- D. It is in economic crisis.

Answer: C

Exp:

The sentences, "It's been a rapid descent from grace for the central Asian nation, which neighbours China and Russia. The landlocked country has.....and coal. " calls Mongolia landlocked and also states that it is neighboured by two countries i.e Russia and China, indicating that it being surrounded by the land of these 2 countries is what is making it landlocked. Thus, option (c) is vindicated.

“Non-contiguous borders” indicates borders that spread over different continents. This information about Mongolia's location cannot be inferred from the passage. So, eliminate option (a). Option (b) is incorrect as the passage states that the reason Mongolia has untapped reserves of natural resources is because it is landlocked. Economic crisis has nothing to do with the meaning of “landlocked”. So, eliminate option (d). Hence, the correct answer is option c.

PQ66. According to the passage, what can be called as a consequence of the economic crisis of Mongolia?

- A. The depreciation of tugrik
- B. Government not being able to meet its obligations towards civil servants and military
- C. The prices of commodities manufactured in Mongolia taking a hit
- D. Mongolia facing an external debt crisis.

Answer: B

Exp:

Option (a) is mentioned as a sign of economic crisis.

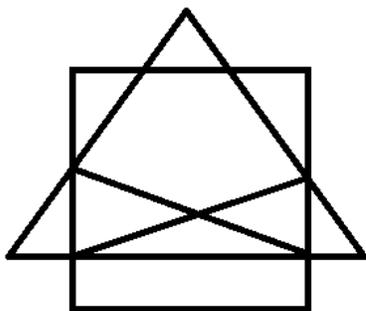
Option (c) led to the economic crisis.

Option (d) is a speculation and not a real consequence.

Option (b) is a direct consequence of the economic crisis of Mongolia per the passage.

Hence, the correct answer is option b.

Q67. Find the number of triangles in the given figure:



A. 13

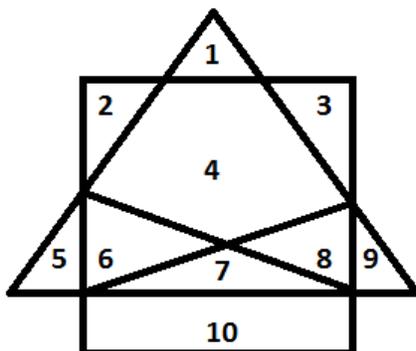
B. 10

C. 9

D. 12

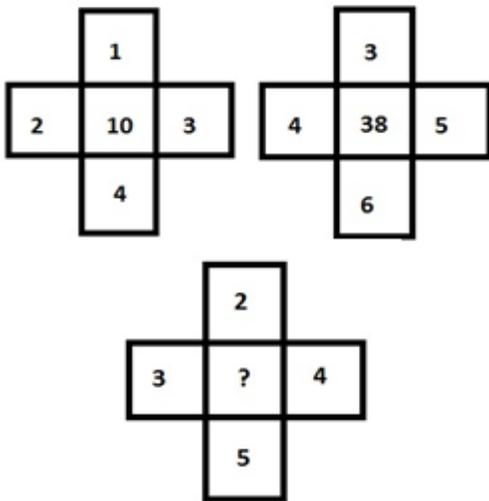
Answer: A

Exp:



Single triangle 1, 2, 3, 5, 6, 7, 8 and 9 (8 triangles)
 Triangle made by two small triangles 6 + 7, 7 + 8 (2 triangles)
 Triangles made by three small triangles 5 + 6 + 7, 7 + 8 + 9 (2 triangles)
 Triangle made by all five small triangles 1+4+5 + 6 + 7 + 8 + 9 (1 Triangle)
 Total 13

Q68. Consider the diagrams given below in which the numbers bear certain relationship among themselves:



Which one of the following numbers is the missing number indicated above by ‘?’

- A. 21
- B. 24
- C. 22
- D. 26

Answer: C

Exp:

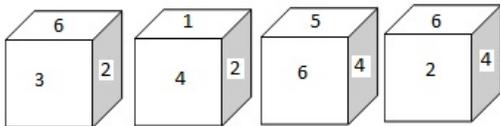
$$(2 \times 3) + (1 \times 4) = 10$$

$$(4 \times 5) + (3 \times 6) = 38$$

$$(3 \times 4) + (2 \times 5) = 22$$

Q69. A dice is thrown four times and its four different positions are shown below:

Dice is numbered from 1 to 6. Find the number on the face opposite to the face showing 6.



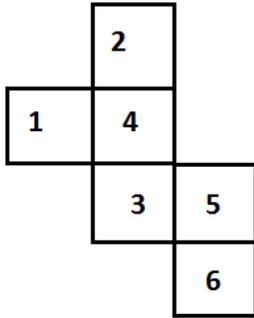
- A. 1
- B. 2
- C. 4
- D. 3

Answer: A

Exp:

With the help of 1st and 3rd view we can conclude 2, 3, 4 and 5 are adjacent to 6 so only 1 can be opposite to 6.

Q70. Six squares are marked 1, 2, 3, 4, 5 and 6 and are hinged together as shown in the figure given below. If they are folded to form a cube, what would be the faces adjacent to face 2?



- A. 3, 4, 5 and 6
- B. 2, 3, 4 and 5
- C. 2, 3, 4 and 6
- D. 1, 4, 5 and 6

Answer: D

Exp: 2 and 3 will be opposite to each other. So rest (1, 4, 5 and 6) faces will always be adjacent to 2.

Q71. At what time between 3 o'clock and 4 o'clock, the hour and minute hands are in a straight line but in opposite direction?

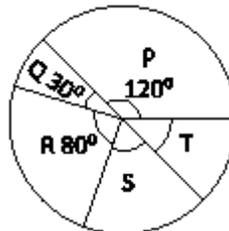
- A. 3 hour 45 mins
- B. 3 hour 50 mins
- C. 3 hour $49\frac{1}{11}$ mins
- D. 3 hour $54\frac{6}{11}$ mins

Answer: C

Exp: None

Q72. The following table shows the monthly expenditure (in 2016) of a family. The table is represented in the Pie-Chart below. Study the Pie-Chart and answer questions that follow:

Items	Expenditure
Food	12000
Electricity	3000
Transport and Communication	-
House Rent	6000
Education Expenses	7000
Total	36000



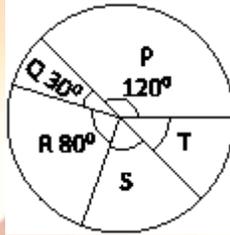
The pie chart shows the different monthly expenditure as segments. The expenditure represented by segment R is

- A. Electricity
- B. Transport and Communication

- C. House Rent
 - D. Education
- Answer: B
Exp: None

Q73. The following table shows the monthly expenditure (in 2016) of a family. The table is represented in the Pie-Chart below. Study the Pie-Chart and answer questions that follow:

Items	Expenditure
Food	12000
Electricity	3000
Transport and Communication	-
House Rent	6000
Education Expenses	7000
Total	36000



- If segment 'T' represents education expenses, then the angular value of T (in degrees) is
- A. 35
 - B. 60
 - C. 45
 - D. 70
- Answer: D
Exp: None

- Q74. On a morning walk, three friends start walking in the same direction together. Their steps measure 80 cm, 85 cm and 90 cm respectively. The minimum distance each should walk to cover equal distance in complete steps is
- A. 12 metres 40 cm
 - B. 138 metres 90 cm
 - C. 122 metres 40 cm
 - D. 98 metres 20 cm
- Answer: C
Exp: None

- Q75. The commander of a regiment wishes to arrange his soldiers in rows of either 12, 15, 18 or 20 and also wishes to see the regiment arranged in the form of a solid square. What is the least number of soldiers in the regiment?
- A. 180
 - B. 360
 - C. 900
 - D. 500
- Answer: C
Exp: None

- Q76. K is a place which is located 2 km away in the north-west direction from the capital P. R is another place that is located 2 km away in the south-west direction from K. M is another place that is located 2 km away in the north-west direction from R. T is yet another place that is located 2 km away in the south-west direction from M. In which direction is T located in relation to P?
- A. South west

- B. North west
- C. West
- D. North

Answer: C

Exp: None

Paragraph: DIRECTIONS for Questions 77 and 78 (2 items)- Read the following passage and answer the items that follow. PASSAGE- Quite a number of people feel that we need to think about the future since most of us live on hope. There is nothing inherently wrong with that. However, this "hope thinking" should only occupy a small fraction of our time. It's the here and now that should occupy most of our consciousness. Being anchored in "now" is how nature evolves. It comes in equilibrium with all the forces at a given time and then the next evolutionary step takes place. This happens since nature takes time and effort to remain anchored in that period and evaluates all the possible pathways. In case it cannot come in equilibrium with the surroundings then it branches into the path that can do so; the branch which could not come in equilibrium withers away and dies.

PQ77. What is the view of the author on "hope thinking"?

- A. We should have a clear picture of future.
- B. We should have a one-to-one balance between present and future.
- C. We should allot most of our time to thinking about future.
- D. We should not be too concerned about future and be rooted in the present.

Answer: D

Exp: According to the passage, we should not live on hope and should not think too much about the future. This vindicates option (d).

The balance between present and future as being one-to-one is contradicting the passage as the passage actually asks us to focus mainly on the here and now and less on the future. Hence option (b) is eliminated.

Option (c) is contrary to "However, this "hope thinking" should only occupy a small fraction of our time."

Option (a) is incorrect as the author's view is not about having a clear picture of future but being rooted in the present.

Hence, the correct answer is option d.

PQ78. According to the passage, being anchored in "now"

1. Paves way for nature to embark on the right path to the next phase.
2. Creates an aura of balanced forces and ample space for the next thing to shape up.

Which of the statements given above is/are correct?

- A. 1 only
- B. 2 only
- C. Both 1 and 2
- D. Neither 1 nor 2

Answer: A

Exp: The passage says that being anchored in "now" enables nature to evaluate all the pathways and then choose one to go to the next step. This vindicates statement 1 as the correct answer.

Statement 2 which talks of "ample space" is inconsistent with the data provided in the passage. Hence, the correct answer is option a.

Paragraph: DIRECTIONS for Questions 79 to 80 (2 items)- Read the following passage and answer the items that follow. PASSAGE- Twenty thousand years ago, at the coldest point of the

Ice Age, everyone on earth was a huntergatherer, spending nearly all their time in tiny bands of a dozen or fewer people. Comparisons between archaeological evidence and huntergatherer bands that survived into the 20th century suggest that while men tended to have more power than women, in most ways societies were highly egalitarian, with no permanent positions of political authority. Important decisions were normally made through round upon round of open discussion, and men who tried to lord it over others would be laid low with mockery, ostracism or even murder. These were highly democratic communities.

All that changed after farming was invented, beginning about 11,500 years ago in what we now call the Middle East. Life steadily became less democratic. For some reason, political, economic and gender inequalities soared. By 3,500 B.C. the first true states were taking shape and poor peasants had little voice in their governments.

PQ79. According to the passage, what does the comparisons between archaeological evidence and hunter gatherer bands that survived into 20th century suggest?

- A. In most societies, women dominated a subservient male population.
- B. Most societies believed that all people are equal and deserve equal rights and opportunities.
- C. Most societies believed that males should be allowed to lead the female population
- D. In most societies, all power was vested in a dominant class who temporarily ruled the community

Answer: B

Exp: The sentence from the passage, "Comparisons between.....political authority." vindicates option b as the correct answer.

Options (a), (c) and (d) are contrary to the information presented in the statement.

Hence, the correct answer is option b.

PQ80. What was the political situation in 3,500 B.C. as compared to Ice age?

- A. The government was inching towards autocracy.
- B. The government was inching towards oligarchy.
- C. The government was inching towards democracy.
- D. The government was inching towards liberalism.

Answer: A

Exp: The last paragraph suggests that around 3,500 B.C the government was turning less democratic and the voices of poor peasants were not heard. This points to the rise of autocratic government.

Hence, the correct answer is option a.