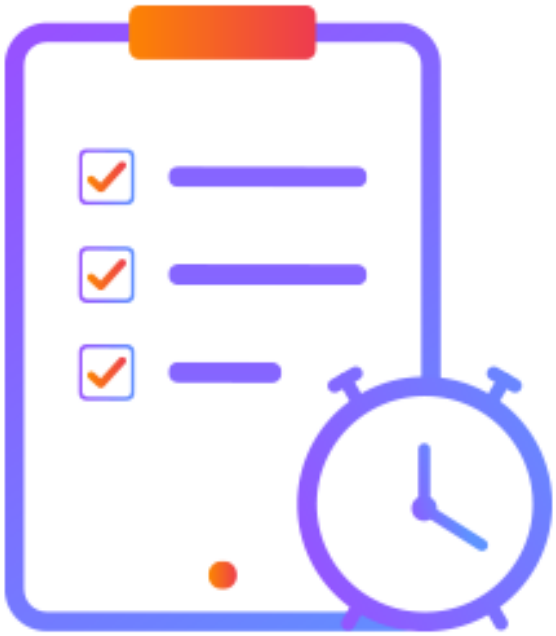
BYJU'S EXAM PREP



SNAP 2022 : Mock Test 7

Mock Test Questions & Solutions

Mock Test Solutions in English

Questions

1. Identify the correct parts of speech of the underlined word in the excerpt below.

   Possessing what we still were unpossessed by,

   Possessed by what we now no more possessed.

   Something we were withholding made us weak

   Until we found out that it was ourselves

   We were withholding from our land of living,

   And forthwith found <u>salvation</u> in surrender.

   A. Adjective
   B. Adverb
   C. Noun
   D. Gerund

2. Fill in the blank with the most appropriate option.

   Many people encourage kids to play computer games, but ___ my opinion playing computer games makes kids violent.

   A. from
   B. with
   C. in
   D. of

3. Identify the part of the given sentence that contains an error.

   There has been many other

   A. contributors to AI,
   B. including the three Turing Award winners in 2018:
   C. Geoffrey Hinton, Yoshua Bengio and Yann LeCun
   D. No error

4. Which one of the following spellings is correct?

   A. Temprament
   B. Austere
   C. Acquintance
   D. Narcisist

5. We are not sure how the opposition will react to our offer, so for now, we will have to **play it by ear** and

hope for luck to be in our favour.

What is the meaning of the highlighted phrase?

A. Proceed instinctively according to results and circumstances

B. Plan things out carefully so that there is no scope for mistakes or errors

C. Play very loud music to irritate others

D. To hope for the luck to be in your favour

6. Fill in the blank with the correct phrase.

The child's continuous ranting is _____.

A. driving me up the wall

B. barking up the wrong tree

C. driving my instincts

D. Barking me up

7. Fill in the blank with the correct option.

I won't let you go home _____ you give me my money back.

A. if

B. whenever

C. wherever

D. unless

8. Which one of the following uses an improper question tag?

A. They are talking about cricket, aren't they?

B. Rita never comes on time, did she?

C. Niti will come tomorrow, won't she?

D. Kartik played badminton in the morning, didn't he?

9. **Direction:** Read the passage given below, and answer the questions that follow it.

Nestled deep in the Himalayan mountains at 5029 m above sea level, Roopkund Lake is a small body of water (~40 m in diameter) that is colloquially referred to as Skeleton Lake due to the remains of several hundred ancient humans scattered around its shores. Little is known about the origin of these skeletons, as they have never been subjected to systematic anthropological or archaeological scrutiny, in part due to the disturbed nature of the site, which is frequently affected by rockslides, and which is often visited by local pilgrims and hikers who have manipulated the skeletons and removed many of the artefacts. There have been multiple proposals to explain the origins of these skeletons. Local folklore describes a pilgrimage to the nearby shrine of the mountain goddess, Nanda Devi, undertaken by a king and queen and their many attendants, who—due to their inappropriate, celebratory behaviour—were struck down by the wrath of Nanda Devi. It has also been suggested that these are the remains of an army or group of merchants who were caught in a storm. Finally, it has been suggested that they were the victims of an epidemic.

To shed light on the origin of the skeletons of Roopkund, we analysed their remains using a series of bioarchaeological analyses, including ancient DNA, stable isotope dietary reconstruction, radiocarbon dating, and osteological analysis. We obtained genome-wide data from 38 individuals by extracting DNA from powder drilled from long bones, producing next-generation sequencing libraries, and enriching them for approximately 1.2 million single nucleotide polymorphisms (SNPs) from across the genome 6,7,8,9, obtaining an average coverage of 0.51 × at targeted positions. We also obtained PCR-based mitochondrial haplogroup determinations for 71 individuals (35 of these were ones for whom we also obtained genome-wide data that confirmed the PCR-based determinations). We generated stable isotope measurements (δ13C and δ15N) from 45 individuals, including 37 for whom we obtained genome-wide genetic data, and we obtained direct radiocarbon dates for 37 individuals for whom we also had both genetic and isotope data. We find that the Roopkund skeletons belong to three genetically distinct groups that were deposited during multiple events, separated in time by approximately 1000 years.

There is a sentence taken from the passage given below. Substitute the underlined phrase with the option closest in meaning.

... colloquially referred to as Skeleton Lake due to the remains of several hundred ancient humans scattered around its shores.

A. Traditionally
B. Informally
C. Conventionally
D. Historically

10. All of the following can be inferred from the passage except:

A. Roopkund regularly faces natural hazards.
B. The skeletons at Roopkund are of unknown provenance.
C. The skeletons at Roopkund are of people who died during separate and unknown incidents.
D. The skeletons at Roopkund are of pilgrims who were trekking to the nearby pilgrim site of Nanda Devi.

11. Which of the following statements can be the concluding sentence of the passage, which uses logic and overall context?

A. These findings bolster previous suggestions that the skeletons of Roopkund Lake were deposited over a thousand years.
B. These findings support previous suggestions that the skeletons of Roopkund Lake were deposited in a single catastrophic event.
C. These findings corroborate previous suggestions that the skeletons of Roopkund Lake were deposited
D. These findings refute previous suggestions that the skeletons of Roopkund Lake were deposited in a

in multiple catastrophic events. single catastrophic event.

12. A sentence has been given in active / passive voice. Out of the four alternatives suggested, select the one which best expressed the same sentence in passive / active voice.

Who shut the window?

A. By who was the window shutted? B. By whom was the window shutted?

C. By who was the window shut? D. By whom was the window shut?

13. Identify the part of the given sentence that contains an error.

While the futuristic thinking of the blue-sky speculators sparks our awe A. and earns much of the funding, muddy boots thinking B. reminds us that some AI applications threaten privacy, C. spreading misinformation and are decidedly racist, sexist and otherwise ethically dubious. (D)

A. a B. b

C. c D. d

14. Fill in the blank with the correct option.

As someone who grew up on Enid Blyton's Famous Five series, I often _____the fact that the picnics of my childhood in Bengal were nothing like the ones in my favourite books.

A. rue B. argue

C. cherish D. appreciate

15. Select the most appropriate antonym of the given word.

Abstemious

A. Temperate B. Austere

C. Goblin D. Gluttonous

16. What day of the week was 22nd August 2010?

A. Sunday B. Wednesday

C. Thursday D. Monday

17. A few statements are given, and these are followed by a few conclusions. Take the given statements to be true even if they seem to be at variance with commonly known facts. Read the conclusions, and then decide which of the given conclusions logically follows from the given statements.

Statements:

Some courts are magnanimous.

Some magnanimous folks are misers.

All misers are tardy.

All tardy folks are hippopotamuses.

Conclusions:

I. All courts being miserly is a possibility.

II. All tardy folks are not misers.

III. No tardy person is a hippopotamus.

A. Only Conclusion I follows.
B. Only Conclusion II follows.
C. Only Conclusion I and Conclusion III follow.
D. All conclusions follow.

18. If 1st January 2005 was saturday, 14th June 1998 was a_____

A. Thursday
B. Sunday
C. Monday
D. Wednesday

19. Direction: Each of the following questions consists of statements that are followed by two conclusions. Read the given statements carefully, and identify which of the conclusions directly follow(s).

Statements: A group of men were freed from jail after they could not be proven guilty.

Conclusions:

I. The group of men will not repeat their misdemeanours in the future.

II. The group of men will repeat their crimes in the future.

A. Only Conclusion I follows.
B. Only Conclusion II follows.
C. Both conclusions I and II follow.
D. Neither Conclusion I nor Conclusion II follows.

20. Directions: Study the following data carefully and answer the questions accordingly.

Nine people, A, B, C, D, E, F, G, H, and I, are sitting in a row facing the north. They are wearing sweaters of three different colours, viz., white, grey, and pink. No two adjacent people are wearing the same

coloured sweaters. Not more than three people are wearing the same coloured sweaters. A wears neither white nor pink sweater but sits at the left end of the row. Two people are sitting to the right of D. F and G are immediate neighbors of D. Three people are sitting between A and C, who wear neither white nor grey sweaters. H, who is wearing a grey sweater, does not sit at the end of the row. C sits to the immediate left or right of F, who wears a grey sweater. E sits second to the left of B. D and I are wearing sweaters of the same colour, but that is not pink. Which colour sweater is E wearing?

A. White
B. Grey
C. Pink
D. Data inadequate

21. Directions: Study the following data carefully and answer the questions accordingly.

Six people, P, Q, R, S, T, and U, are sitting in a row facing the north. R sits third from one of the extreme ends. The number of people sitting to the right of R is the same as the number of people sitting to the left of U. T sits to the immediate left of Q. P sits second to the left of U. What is the position of S with respect to U?

A. Immediate right
B. Third to the left
C. Second to the left
D. Cannot be determined

22. Mother to son: Go get my diary from the house.
Which of the following statements are implicit?

I. The son knows where the diary is kept.

II. The son will obey her and get the diary.

A. Only I follows.
B. Only II follows.
C. Both follow.
D. Neither follows.

23. Directions: Study the following data carefully and answer the questions accordingly.

There are eight members in a family with three married couples. M is the granddaughter of L. P is married to R, who is the daughter of G. L and G are married. U is the brother-in-law of L, who is the father of T. Y is the sister-in-law of R but does not have a child. How is G related to Y?

A. Uncle
B. Mother-in-law
C. Father-in-law
D. Aunt

24. Directions: Study the following information carefully and answer the following questions.

In a three generation family of eight members, i.e., P, Q, R, S, T, U, V, and W, there are two married couples. P is the father of T. R is the son of W, who is the daughter of Q. U is the sister of R. W is the mother-in-law of S, who is a female member of the family. R, who has only one sister, is an unmarried member of the family. P is the paternal grandfather of U. Who amongst the following is the father-in-law of W?

A. V
B. P
C. T
D. S

25. Directions: A statement that is followed by some inferences is given. You have to consider the statement to be true, and tick the correct answer.

Statement: Recently, a tech company came up with a policy of not allowing its employees to leave and join its rivals for six months after leaving the organisation.

Inference:

I. It can be attributed to the company's poor human resource management skills.

II. The company might have taken this step to prevent the loss of a human resource to a direct rival.

A. Only Inference I follows.
B. Only Inference II follows.
C. Both inferences I and II follow.
D. Neither Inference I nor Inference II follows.

26. A watch which gains 7 seconds in 2 minutes was set right at 8 a.m. In the afternoon of the same day, when the watch indicated quarter past 3 o'clock, the approximate actual time was _____.

A. 51 minutes past 3
B. 2:51 p.m.
C. $55\frac{7}{11}$ minutes past 3
D. $3\frac{3}{11}$ minutes past 2

27. At what time between 9 and 10 o'clock will the hands of a clock be in the same straight line but not together?

A. $\frac{180}{11}$ minutes 9 past
B. $\frac{120}{11}$ minutes past 9
C. 9:30
D. $\frac{270}{11}$ minutes past 9

28. Which of the following should replace the question mark (?) in the following series?
L3M, M5N, N7O, O11P, ?

A. M5H
B. I09K
C. P13Q
D. None of the above

29. Designing a car seat is complicated and can take months to conceptualise and engineer. In fact, it is one of the most complex car systems to design and is second only to the engine. But what if the car seat were smarter—intelligent enough to provide a safer driving experience? The car and traffic experts claim that the installation of newly designed seats in all cars in China would reduce the average number of deaths per traffic accident by 40 per cent. In order to reduce the number of deaths, the government is considering issuing a mandate to install newly designed seats in all cars produced after 2022
Which of the following, if true, represents the strongest challenge to the government's idea?

A. The seats of the new design are more prone to damage in a collision that might cause fatalities.
B. There are strict guidelines and exact specifications for the manufacture of these seats.
C. Automobile manufacturers plan to recover the cost of manufacturing these seats by increasing the prices of new cars.
D. The proposed new seat installation program will negatively affect the resale of cars manufactured prior to 2022

30. What angle (in clockwise direction) would be formed between the hour hands and minutes hands of a clock, if the time is 1:40 p.m.?

A. 130 degrees
B. 190 degrees
C. 270 degrees
D. 185 degrees

31. Which of the following numbers should come in the place of '?' in the following number series?
7 5 7 17 ? 309

A. 63
B. 72
C. 81
D. 99

32. Which of the following numbers should come next in the following number series?
5.11, 4.41, 3.71, 3.01, ?

A. 1.81
B. 1.71
C. 2.31
D. None of the above

33. Which of the following numbers should replace '?' in the following series?
11, 22, 14, 28, 20, 40, 32, ?

A. 40
B. 64
C. 17
D. 12

34. **Direction:** In each of the following questions. a related pair of words or phrases is followed by five lettered pairs of words or phrases. Select the lettered pair that best expresses a relationship similar to that expressed in the original pair.

Cheapskate: Tightfisted:

A. Gatekeeper: Weak
B. Rebellious: Lazy
C. Wise: Passive
D. Hermit: Solitary

35. Which of the following should replace the question mark (?) in the following series?
N_2P, M_4Q, L_6R, K_8S, ?

A. $H_{11}L$
B. UD_4
C. WL_2
D. $J_{10}T$

36. Which of the following should replace the question mark (?) in the following series?
BJJ, DLL, FNN, (?), JRR

A. FKK
B. HPP
C. RTT
D. LYU

37. **Direction:** Two statements are followed by two conclusions. Identify the conclusion that definitely follows from the statements and mark the option which is correct.

Statements:

1) Some notes are computers.

2) Some copies are notes.

Conclusions:

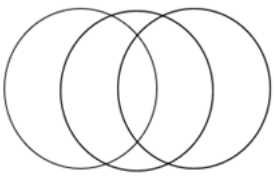
I. All copies are computers.

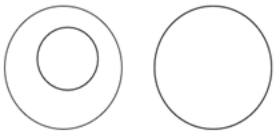
II. All computers may be notes.

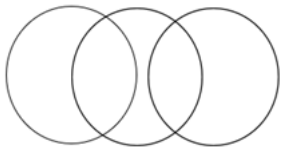
A. Only conclusion I follows
B. Only conclusion II follows
C. Both conclusions follow
D. Neither conclusion follows.

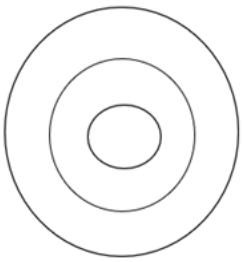
38. Which of the following diagram logically shows the relationship between:

Sun, Moon, Star

A. 

B. 

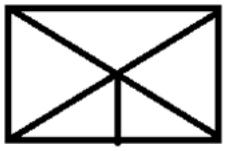
C. 

D. 

39. **Direction:** In each of the following questions. a related pair of words or phrases is followed by five lettered pairs of words or phrases. Select the lettered pair that best expresses a relationship similar to that expressed in the original pair. Aqueduct: Water:

A. Tube: Spittle
B. Artery: Blood
C. Throat: Pant
D. Strip: Airplane

40. How many triangles are there in the following figure



A. 8
B. 9
C. 10
D. 11

41. Reena and her husband had to travel from Gurgaon to Noida at different times. Her husband left at 11 a.m. in the morning in his car at a speed of 40 km/h. Reena left at 1:30 p.m. at a speed of 80 km/h in the same route and the same direction. After 1 hour, Reena had to stop as she wanted to do some shopping for which she took 1 hour 15 minutes and then continued going towards Noida. At what distance (in km) from Gurgaon did they meet?

A. 250
B. 300
C. 315
D. 375

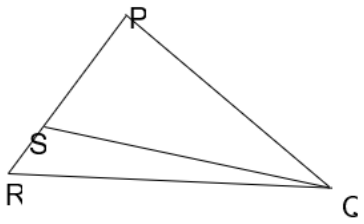
42. Find the missing number in the table provided below:

5	31	6
9	7	12
8	12	17
67	53	?

A. 154 B. 176

C. 198 D. 202

43. In the given figure, a line QS is drawn on PR such that PQ = PS. Find $m \angle RQS$ if $m \angle PQR - m \angle PRQ = 45^0$. (Figure is not drawn to scale)



A. 20 B. 22.5

C. 25 D. 30

44. Instead of using a one litre measuring instrument, a merchant uses a 1200 mL instrument while buying but uses an 800 mL instrument while selling the same liquid. If he offers a discount of 20% on cash payment, what is his overall profit percentage if he sells the liquid at the cost price?

A. 10% B. 15%

C. 20% D. 22%

45. Rahana, who is a magician, has many colourful handkerchiefs in his bag. His bag comprises 5 black, 7 red, and 9 green handkerchiefs. He drew 2 handkerchiefs from the bag one after the other. What is the probability that the second handkerchief drawn is red in colour when the first handkerchief drawn is not replaced?

A. $\frac{1}{6}$ B. $\frac{1}{5}$

C. $\frac{1}{8}$ D. $\frac{1}{3}$

46. If $\log(a^7b^3) = 7p + 3q$ and $\log(a^3b^7) = 3p + 7q$, find log(ab) in terms of p and q.

A. pq B. p + q

C. $(pq)^2$ D. $\frac{p}{q}$

47. A group of 50 employees is employed to complete a project in 65 days. After 30 days, an additional 25 employees are employed, and the work is finished 5 days earlier. If the additional employees had not been employed, then how many days would it have taken beyond the expected period?

A. 10 B. 9

C. 8 D. 7

48. A roller is 10 m long, and its diameter is 1.5 m. It takes exactly 1400 rotations of the roller to level a road. If the cost of using the roller is Rs. 5 per sq m, then find the total cost of levelling the road. (Take $\Pi = \frac{22}{7}$)

A. 186300 B. 265000

C. 330000 D. 420500

49. If f(x) = $\frac{7x+11}{8x-7}$, where $x \neq \frac{7}{8}$, and x is a real number, then find the value of fofofofofofof(8).

A. $\frac{62}{57}$ B. $\frac{67}{57}$

C. $\frac{67}{51}$ D. $\frac{62}{51}$

50. Find the number of factors of the sum of two numbers a and b whose HCF is 324, and the numbers are closer to 99999.

A. 18 B. 24

C. 30 D. 36

51. Sita starts from her house and travels 5 km westwards to a park. She then turns left and covers four times that distance to reach her friend's home. Again, she turns left and travels six times the distance she covered between her house and the park to reach the destination point P. Find the shortest distance (in km) between her house and point P.

A. $3\sqrt{41}$ B. $4\sqrt{41}$

C. $5\sqrt{41}$ D. $6\sqrt{41}$

52. For the given number series, what will come in place of a question mark?

4, 9, 7, 12, 10, 15, 13, ?

A. 11 B. 18

C. 17 D. 10

53. A room can hold 15 parcels and 8 boxes. But if the size of the room gets 1/2 times bigger than the original size of the room, then it can hold 20 parcels and 14 boxes. How many boxes can fill the room whose capacity is 60% more than the original size of the room?

A. 16 B. 32

C. 48 D. 64

54. Pradip's age is $\frac{7}{4}$ times of Ranvir's age. Ranvir is now 4 times as old as he was when Pradip was as old as Ranvir is today. Find Pradip's age when Ranvir was half as old as Pradip is now.

A. 35
B. 56
C. 70
D. Insufficient data

55. Two letters are selected at random from the word PROBABILITY. Find the probability that both the selected words are vowels.
A. $\frac{2}{55}$
B. $\frac{3}{55}$
C. $\frac{4}{55}$
D. $\frac{6}{55}$

56. A number which is formed by writing one digit 8 times is always divisible by:
A. 7
B. 11
C. 13
D. All of these

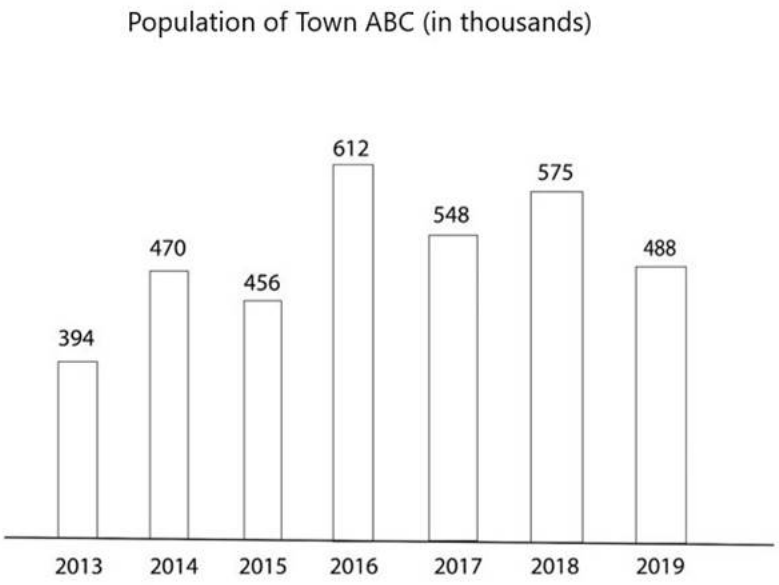
57. A sum of money is lent at a certain rate of interest compounded annually. Instead, if the same amount was lent at simple interest, the interest for the first two years reduces by Rs. 210 and that for the first three years reduces by Rs. 693. Find the approximate value of the amount (in Rs.) after two years when lent at compound interest.
A. 2581
B. 2876
C. 3943
D. 3825

58. For the given number series, what will come in place of a question mark?

35, 40, 5, 46, 51, 5, ?, 62, 5
A. 59
B. 58
C. 57
D. 56

59. Shailesh earned an average of Rs. 3000 per month from January through May. Then, he earned Rs. 3200, Rs. 3300, Rs. 3400, Rs. 3500, and Rs. 3600 from June to October, respectively. During November, he earned 60% of what he earned in December. If his average earnings for the entire year is Rs. 4000, then find the difference between his earnings (in Rs.) in the months of December and November.
A. 3245
B. 3850
C. 4000
D. 4865

60. **Direction:** The bar graph given below shows the strength of the population of a town ABC (in thousands) in seven different years from 2013 to 2019. Answer the question based on this graph.



The total population in the years 2016, 2015, and 2017 together is approximately what percentage more/less than that in the years 2018, 2019, and 2014 together?

A. 7% more

B. 4% less

C. 8% less

D. 5% more

Solutions

1. C

Sol. C is the answer as salvation is a noun which means deliverance from the power and effects of sin.

2. C

Sol. C is the answer as the correct phrase is in my opinion.

3. A

Sol. A is the correct answer as there is an error in A. Have should be used in place of has because contributors is a plural noun.

4. B

Sol. B is the correct answer because austere is the correct spelling. The correct spellings of the other words are as follows:

- Temperament

- Acquaintance

- Narcissist

5. A

Sol. The idiom **play it by ear** refers to deciding how to deal with a situation as it develops, rather than acting according to plans made earlier.

Hence, option A is the right answer.

6. A

Sol. A is the correct answer as driving me up the wall means to make someone irritated or angry.

7. D

Sol.

D is the correct answer as the correct word to be used here is unless which means under any other circumstance than.

8. B

Sol. B is the correct answer as the correct question tag to be used here is does she. The tense should remain the same in the question tag.

9. B

Sol. Passage summary: Roopkund Lake is home to the scattered skeletal remains of several hundred individuals of unknown origin. Researchers have studied the skeletal remains extensively. They opine that the skeletons accumulated there over a span of 1000 years and are of different groups of people.

Genre: Ecology/biology

Word count: 359

Question type: Vocabulary-based question

The correct answer is option B. Colloquially means in a language of ordinary or familiar conversation; informally.

10. D

Sol. Passage summary: Roopkund Lake is home to the scattered skeletal remains of several hundred individuals of unknown origin. Researchers have studied the skeletal remains extensively and opine that the skeletons accumulated there over a span of 1000 years and are of different groups of people.

Genre: Ecology/biology

Word count: 359

Question type: Indirect/Inferential question

There is no information to infer option D from the passage. Hence, it is the correct choice.

11. D

Sol. Passage summary: Roopkund Lake is home to the scattered skeletal remains of several hundred individuals of unknown origin. Researchers have studied the skeletal remains extensively and opine that

the skeletons accumulated there over a span of 1000 years and are of different groups of people.

Genre: Ecology/biology

Word count: 359

Question type: Indirect/Inferential question

Refer to the last sentence of the passage:

We find that the skeletons in Roopkund Lake belong to three genetically distinct groups that were deposited during multiple events, separated in time by approximately 1000 years.

This will clearly contradict or refute previous suggestions that stated the skeletons of Roopkund Lake were deposited in a single catastrophic event. Hence, option D is the correct choice.

12. D

Sol. D is the correct answer because:
- When who becomes an object in the passive voice, it becomes whom.
- Shut remains the same across the three forms of verbs.

13. D

Sol. D is the correct answer as there is an error in D. Spreading should be replaced by spreads as spreads should be parallel with sparks, earns, and reminds.

14. A

Sol. In this sentence, we need a word which is close to regret. Rue means to bitterly regret (something one has done or allowed to happen) and wish it undone. Hence, A is the correct answer. C and D do not fit in here because both the words are positive. B is out of scope.

15. D

Sol. The meaning of the given words are as follows:

Abstemious: indulging only very moderately in something, especially food and drink

Temperate: showing moderation or self-restraint

Goblin: a mischievous creature resembling a dwarf

Gluttonous: excessive indulging into something

Hence, the correct answer is D.

16. A

Sol.

22^{nd} August 2010 = (2009 years + Period 1.1.2010 to 22.8.2010)

Odd days in 400 years = 0

Odd days in 2000 years = 0

9 years = (2 leap years + 7 ordinary years)

Odd days from 2001 to 2009 = (2 × 2 + 7 × 1) = 11 odd days = 4 odd days

For the period 1.1.2010 to 22.8.2010:

Jan(3) + Feb(0) + March(3) + April(2) + May(3) + June(2) + July(3) + Aug(1)

= 17 odd days = 2 weeks 3 days = 3 odd days

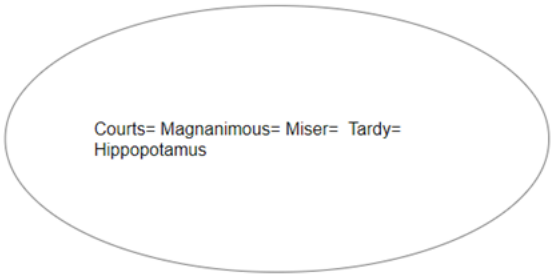
Total number of odd days = 4 + 3 = 7

Thus, the required day will be a Sunday.

Hence, option A is the correct answer.

17. A

Sol. Conclusion II and Conclusion III can clearly not be conclusions because these two conclusions are negatives that cannot be drawn from positive premises. Conclusion I is a possibility according to the diagram given below.



18. B

Sol. Number of odd days from 1st Jan 1999 to 1st Jan 2005

= 1 + 2 + 1 + 1 + 1 + 2 + 1 = 9 days = 1 week 2 day = 2 odd days

number of odd days for the period from 15.6.1998 to 31.12.1998

Jun(2) + Jul(3) + Aug(3) + Sep(2) + Oct(3) + Nov(2) + Dec(3)

= 2 + 3 + 3 + 2 + 3 + 2 + 3 = 18 days = 2 week 4 days = 4 odd days

So, total number of odd days till 14.6.1998 = 2 + 4 = 6 odd days.

Thus, 14th June 1998 is Saturday − 6 = Sunday.

Hence, option B is the correct answer.

19. D

Sol. We cannot be sure of the fact that the group of men will not repeat such a thing in the future. Neither can we be sure if those men will do it again. Hence, neither conclusion follows.

20. C

Sol.

A wears neither white nor pink sweater but sits at the left end of the row.

Three people are sitting between A and C, who wear neither white nor grey sweater.

A __ __ __ C

A → Grey

C → Pink

Two people are sitting to the right of D.

F and G are immediate neighbors of D.

C sits to the immediate left or right of F, who wears a grey sweater.

A __ __ __ C F D G __

A and F → Grey

C → Pink

E sits second to the left of B.

H, who is wearing a grey sweater, does not sit at the end of the row.

A E H B C F D G I → This is the final arrangement.

A, F, and H → Grey

C → Pink

D and I are wearing sweaters of the same colour, but that is not pink.

Not more than three people are wearing the same coloured sweaters.

A, F, and H → Grey

C → Pink

D and I → White

No two adjacent people are wearing the same coloured sweaters.

Since not more than three people are wearing the same coloured sweaters, the final arrangement will be:

People	A	E	H	B	C	F	D	G	I
Sweaters	Grey	Pink	Grey	White	Pink	Grey	White	Pink	White

Therefore, it is understood that E is wearing the pink sweater.

Hence, option C is the correct answer.

21. D

Sol.

R sits third from one of the extreme ends.

Case I: __ __ R __ __ __

Case II: __ __ __ R __ __

The number of people sitting to the right of R is the same as the number of people sitting to the left of U.

Case I: __ __ R U __ __

Case II: __ __ U R __ __

P sits second to the left of U.

Case I: __ P R U __ __

Case II: P __ U R __ __

T sits to the immediate left of Q.

Case I: S P R U T Q

Case II: P S U R T Q

Therefore, the answer to the question cannot be determined.

Hence, option D is the correct answer.

22. C

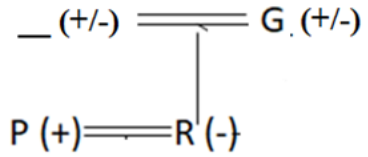
Sol. Since the mother is asking the son to go and get her diary, she assumes that he knows where it is and that he will obey her.

23. B

Sol.

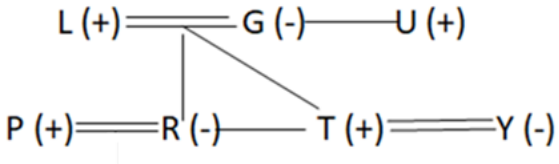
Symbol	Meaning
=	Married couple
—	Siblings
|	Parent/s – Child
□ Or (m) Or (+)	Male
○ Or (f) Or (–)	Female
(+/–) or (m/f)	Either Male or Female ? The gender cannot be determined

P is married to R, who is the daughter of G.

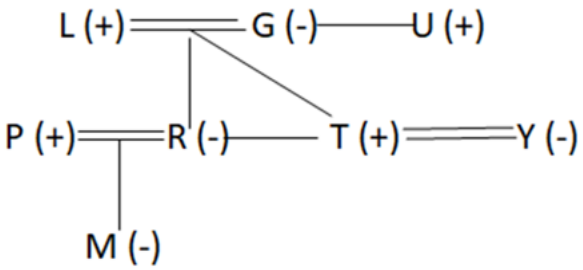


U is the brother-in-law of L, who is the father of T.

Y is the sister-in-law of R but does not have a child. L and G are married.



M is the granddaughter of L. And, Y has no child.



Therefore, this is the final family tree.

Hence, G is the mother-in-law of Y.

Hence, option B is the correct answer.

24. B

Sol.

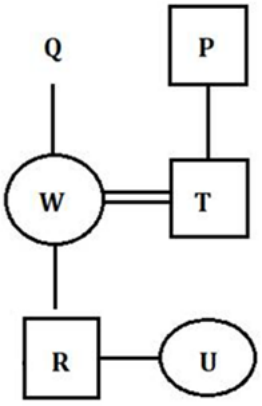
Symbol	Relation
□	Male
○	Female
——	Sibling
=	Couple
|	Child

P is the father of T.

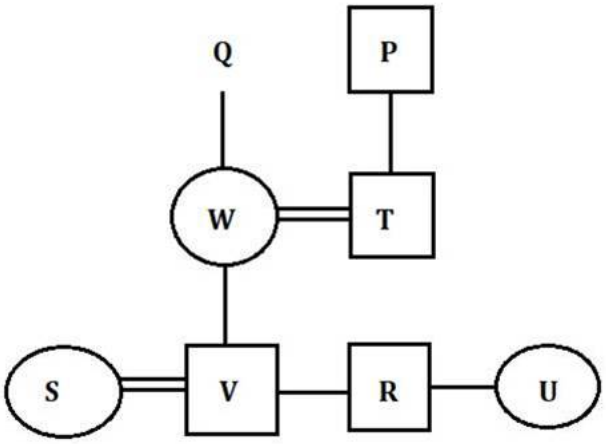
R is the son of W, who is the daughter of Q.

U is the sister of R.

P is the paternal grandfather of U.



W is the mother-in-law of S, who is a female member of the family.
R, who has only one sister, is an unmarried member of the family.



Hence, P is the father-in-law of W.
Hence, option B is the correct answer.

25. B

Sol. Poor human resource management cannot be linked to a company's policy of not allowing its employees to join another rival. We cannot form a correlation between the two things. Hence, Inference I is rejected. Now, Inference II can be attributed to the step taken by the company, which is mentioned in the statement, because the company must have been losing its employees to direct rivals. Consequently, the company came up with the aforementioned step. Hence, option B is the correct answer.

26. B

Sol.

Time from 8 a.m. to 3.15 p.m. = 7 hours 15 minutes = $\frac{29}{4}$ hours

2 minutes 7 seconds of this clock implies 2 minutes of a correct clock.

2 minutes 7 seconds = $\frac{2}{60} + \frac{7}{3600} = \frac{127}{3600}$ hours

2 minutes = $\frac{1}{30}$ hours

Hence, $\frac{127}{3600}$ hours of the faulty clock = $\frac{1}{30}$ hours of the correct clock

Hence, $\frac{29}{4}$ hours of the faulty clock

$= \frac{1}{30} \times \frac{3600}{127} \times \frac{29}{4}$ hours of the correct clock

Hence, $\frac{29}{4}$ hours of the faulty clock

$= \frac{1}{30} \times \frac{127}{3600} \times \frac{29}{4}$ hours of the correct clock

= 6.85 hours

= 6.85 hours

= 6 hours 51 minutes

Therefore, the correct time is 6 hours 51 minutes after 8 a.m., i.e., 2:51 p.m.

Hence, option B is the correct answer.

27. A

Sol.

For a straight line angle = 180°

The formula for finding the angle = $30H - \frac{11}{2} \times M$

Here, H = Hours, M = Minutes

Now,

$30H - \frac{11}{2} \times M = 180$

Or, $30 \times 9 - \frac{11}{2} \times M = 180$

Or, $270 - \frac{11}{2} \times M = 180$

Or, $-\frac{11}{2} \times M = 180 - 270$

Or, $-\frac{11}{2} \times M = -90$

Or, $11 \times M = 180$

Or, $M = \frac{180}{11}$ minutes

So, time will be $\frac{180}{11}$ minutes 9 past.

Hence, option A is the correct answer.

28. C

Sol.

In this series, the third letter is repeated as the first letter of the next segment. The numbers in the middle represent a series of prime numbers in the ascending order starting from 3. The third letters are in the alphabetical order beginning with M.

Thus, the required answer is P13Q.

Hence, option C is the correct answer.

29. A

Sol. The government's idea is to issue a mandate of installing the newly designed seats in all cars produced after 2022. We need to choose an option that brings out a flaw in the government's decision. Option A tells us a drawback of the newly designed seat, which eventually counters the government's decision. Therefore, the answer is option A.

30. B

Sol.

Angle between hour hand and minute hand = $\frac{11}{2} \times$ M - 30H

Here, M = 40 and H = 1

So, required angle = $\frac{11}{2} \times 40 - 30 = 190$ degrees

Hence, option B is the correct answer.

31. A

Sol.

$7 \times 1 - 2 = 5$

$5 \times 2 - 3 = 7$

$7 \times 3 - 4 = 17$

17 × 4 - 5 = 63

63 × 5 - 6 = 309

Hence, option A is the correct answer.

32. C

Sol.

In this simple subtraction series, each number decreases by 0.7.

So, the next number will be 3.01 - 0.7 = 2.31

Hence, option C is the correct answer.

33. B

Sol.

There are two series i.e., 11, 14, 20, 32, …. And 22, 28, 40, …

Difference between the terms in first series:

14 - 11 = 3

20 - 14 = 6

32 - 20 = 12

The difference is being multiplied by 2.

The next term of the series will be from 22, 28, 40, …. which will be 64. (Difference of first two numbers = 6, difference of second and third numbers = 12, so the difference of third and fourth numbers should be 24).

Hence, option B is the correct answer.

34. D

Sol. The meaning of the difficult words pertaining to the question are as follows:

Cheapskate: a person who spends as little money as possible

Tightfisted: a synonym of the word cheapskate

Hermit: lonely person

Clearly, the given pair of words are synonymous in nature. Hence, option D is the right answer.

35. D

Sol.

There are three series to look for here. The first letters are in the reverse alphabetical order, i.e., N, M, L,

K, J. The second letters are in the alphabetical order beginning with P. The number series is as follows: 2, 4, 6, 8, 10

Thus the required answer will be $J_{10}T$.

Hence, option D is the correct answer.

36. B

Sol.

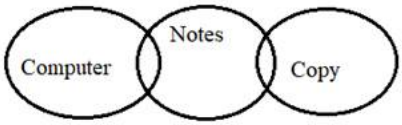
The first letters are in alphabetical order with a letter skipped in between each segment, i.e., B, D, F, H, J. The second and third letters are repeated. They are also in the alphabetical order with a skipped letter, i.e., J, L, N, P, R.

Thus, HPP will replace '?' in the given series.

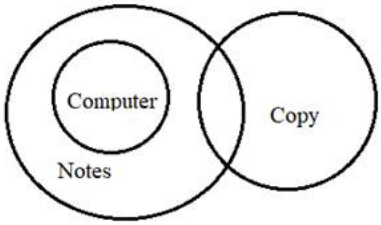
Hence, option B is the correct answer.

37. B

Sol.



Or,



Conclusion:

I. All copies are computers – It is not definitely true.

II. All computers may be notes – It may be true as we can see in the second image.

Hence, option B is correct.

38. B

Sol. Sun is a star. Moon is not related to the sun or star that way.

Hence, option B is the correct answer.

39. B

Sol. The meaning of the difficult words pertaining to the question are as follows:
Aqueduct: an artificial channel for conveying water
Spittle: saliva
Water travels through an aqueduct. Similarly, blood travels to all the parts of the body via arteries. Hence, option B is the right answer.

40. C

Sol. There are 10 triangles in the given figure.
Hence, option C is the correct answer.

41. B

Sol. As Reena started at 1:30 p.m., the time period between 11 a.m. and 1:30 p.m. is 2.5 hours.
So, in these 2.5 hours, her husband has travelled a distance of $40 \times 2.5 = 100\ \text{km}$
From 1:30 p.m. to 2:30 p.m., Reena travelled 80 $\times$ 1 = 80 km.
Now, from 2:30 p.m. till 3:45 p.m., she went shopping.
So, from 1:30 p.m. to 3:45 p.m., her husband travelled 2.25 $\times$ 40 = 90 km.
Total distance covered by her husband so far = 100 + 90 = 190 km
Now, at 3:45 p.m., the distance between Reena and her husband = 190 – 80 = 110 km
So, the time taken for their meeting = $\frac{110}{80-40} = \frac{110}{40} = 2\ \text{hours}\ 45\ \text{minutes}$
The distance covered by her husband in 2 hours 45 minutes = $40 \times \frac{11}{4} = 110\ \text{km}$
So, the distance from Gurgaon where they meet = 190 + 110 = 300 km
Hence, option B is the correct answer.

42. C

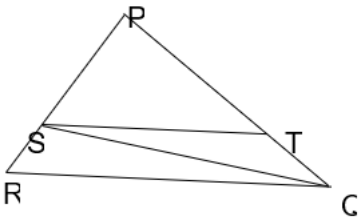
Sol. From the table, we can observe that:
In the 1st column,
$8 \times 9 - 5 = 72 - 5 = 67$
In 2nd column,
$12 \times 7 - 31 = 72 - 5 = 67$
Hence, for the 3rd column, applying the same rule:

$17 \times 12 - 6 = 198$

Hence, option C is the correct answer.

43. B

Sol. Please refer to the figure given below:



We draw a line ST parallel to RQ.

Here, $m \angle PST = m \angle PRQ$ (Corresponding angles)

$m \angle TSQ = m \angle SQR$ (Alternate angles)

As $m \angle PQR - m \angle PRQ = 40^0$

$m \angle PQS + m \angle SQR - m \angle PRQ = 45^0$

$m \angle PQS + m \angle TSQ - m \angle PRQ = 45^0$

$m \angle TSQ + m \angle PSQ - m \angle PST = 45^0$

$m \angle TSQ + m \angle TSQ = 45^0$

$2m \angle TSQ = 45^0$

$m \angle TSQ = 22.5^0$

Hence, option B is the correct answer.

44. C

Sol. Let's assume that the CP per mL is Rs. 1. Hence, the SP per mL is Rs. 1.

Let's assume that he purchased 1200 mL. Then, the CP is Rs. 1000.

The SP of 1200 mL is Rs. 1500; after a discount of 20%, the SP is Rs. 1200.

His profit is Rs. 200, so the required percentage is 20%.

Hence, option C is the correct answer.

45. D

Sol.

If the first handkerchief is not replaced, there are two cases:

Case 1: The handkerchief drawn first is also red in colour.

Then, the probability = $\frac{7}{21} \times \frac{6}{20} = \frac{1}{10}$

Case2: The handkerchief drawn first is not red in colour.

Then, the probability = $\frac{14}{21} \times \frac{7}{20} = \frac{7}{30}$

So, the required probability = $\frac{1}{10} + \frac{7}{30} = \frac{1}{3}$

Hence, option D is the correct answer.

46. B

Sol. As $\log(a^7b^3) = 7p + 3q$

$\Rightarrow 7\log a + 3\log b = 7p + 3q$ ...(1)

$\log(a^3b^7) = 3p + 7q$

$\Rightarrow 3\log a + 7\log b = 3p + 7q$ ...(2)

Then, 3 equation (1) – 7 equation (2), we get:

–40logb = –40q

$\Rightarrow \log b = q$

Putting this value in equation (1), we get:

log a = p

So, log (ab) = log a + log b = p + q

Hence, option B is the correct answer.

47. A

Sol. Total work = $50 \times 30 + 75 \times (65 - 5 - 30)$ = 1500 + 2250 = 3750 units

Let's assume the initial 50 employees take 'd' days to complete the project.

So, $50 \times d = 3750$

$\Rightarrow d = 75$

Number of days taken beyond the expected date = 75 – 65 = 10 days

Hence, option A is the correct answer.

48. C

Sol. Radius of the roller = $\frac{1.5}{2} = 0.75$ m

Length of the roller = 10 m

Curved surface area of the roller = $2\Pi \times 0.75 \times 10 = 15\Pi$ sq m

In 1 rotation, it covers 15Π sq m area. So, in 1400 rotations, it covers 21000Π sq m.

Hence, the total cost of levelling the road =

$5 \times 21000\Pi = 5 \times 3000 \times 22 = \text{Rs.}\,330000$

Hence, option C is the correct answer.

49. B

Sol. As f(x) = $\frac{7x+11}{8x-7}$

fof(x) = $\frac{7(\frac{7x+11}{8x-7})+11}{8(\frac{7x+11}{8x-7})-7} = \frac{49x+77+88x-77}{56x+88-56x+49} = \frac{137x}{137} = x$

Hence, we can say that fofof(x) = f(x).

$\Rightarrow$ If there are an odd number of fs, then the whole function becomes equal to f(x)

$\Rightarrow$ fofofofofof(8) = f(8) = $\frac{7(8)+11}{8(8)-7} = \frac{67}{57}$

Hence, option B is the correct answer.

50. C

Sol. Since the HCF of two numbers is 324, the numbers should be multiples of 324. One number closer to 99999 whose HCF is 324 is 99792. The next number can be found out by adding 324 to 99792 which is equal to 100116.

Sum = 99792 + 100116 = 199908

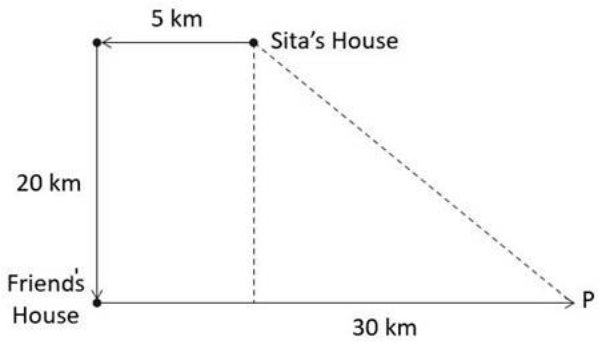
$199908 = 2^2 \times 3^4 \times 617$

Number of factors $= 3 \times 5 \times 2 = 30$

Hence, option C is the correct answer.

51. C

Sol. According to the data given in the question, we can draw the following figure:



So, from the figure, we can conclude that the required distance = $\sqrt{(25)^2 + (20)^2} = 5\sqrt{41}$ km

Hence, option C is the correct answer.

52. B

Sol. In the first pattern, 5 is added, and in the second pattern, 2 is subtracted.

So, the next number is 13 + 5 = 18.

Hence, option B is the correct answer.

53. B

Sol. Let V be the volume of the original room.

Let p and b be the volumes of each parcel and box, respectively.

15p + 8b = V …(1)

$20p + 14b = (1 + \frac{1}{2})V = \frac{3}{2}V$ …(2)

Divide (1) by (2):

$\frac{15p + 8b}{20p + 14b} = \frac{V}{\frac{3}{2}V} = \frac{2}{3}$

45p + 24b = 40p + 28b

5p = 4b

$\frac{p}{b} = \frac{4}{5}$

$p = \frac{4}{5}b$

Putting this value in (1):

$15(\frac{4}{5}b) + 8b = V$

$20b = V$

Capacity of the room is 60% of the original = $(1 + \frac{3}{5}) \times 20b$

$= 32b$

Number of boxes required to fill this container = $\frac{32b}{b} = 32$

Hence, option B is the correct answer.

54. D

Sol. Let Ranvir's age be x and Pradip's age be y.

So, $y = \frac{7}{4}x \Rightarrow 4y = 7x$ …(1)

Also, $x = 4\{x – (y – x)\}$

$\Rightarrow x = 4(2x – y)$

$\Rightarrow 4y = 7x$ …(2)

Both equations (1) and (2) are the same, so more than one value is possible here. So, the given data is insufficient.

Hence, option D is the correct answer.

55. D

Sol. Total ways of selecting two alphabets = $^{11}C_2 = \frac{11 \times 10}{2 \times 1} = 55$

Favorable ways = $^4C_2 = 6$

Required probability = $\frac{6}{55}$

Hence, option D is the correct answer.

56. B

Sol. Let the number be aaaaaaaa.

$$aaaaaaaa = a \times 10^7 + a \times 10^6 + a \times 10^5 + a \times 10^4 + a \times 10^3 + a \times 10^2 + a \times 10^1 + a \times 10^0$$

$= a(10^7 + 10^6 + 10^5 + 10^4 + 10^3 + 10^2 + 10^1 + 10^0)$

$= 11111111 \times a$

This number is not necessarily divisible by 7 and 13, but it is always divisible by 11.

Hence, option B is the correct answer.

57. C

Sol. Let the principal be 'P' and rate be 'r'.

$P[(1 + \frac{r}{100})^2 - 1] - \frac{P \times 2 \times r}{100} = 210$

$\Rightarrow P[\frac{r^2}{100^2} + \frac{2r}{100} - \frac{2r}{100}] = 210$

$\Rightarrow P\frac{r^2}{100^2} = 210$ …(1)

Also:

$\Rightarrow P[(1 + \frac{r}{100})^3 - 1] - \frac{P \times 3 \times r}{100} = 693$

$\Rightarrow P[1 + \frac{r^3}{100^3} + 3\frac{r^2}{100^2} + \frac{3r}{100} - 1 - \frac{3r}{100}] = 693$

$\Rightarrow P[\frac{r^3}{100^3} + 3\frac{r^2}{100^2}] = 693$

Divide (2) by (1):

We get $\frac{r}{100} + 3 = \frac{693}{210}$

$\Rightarrow \frac{r}{100} = \frac{693}{210} - 3 = \frac{60}{210}$

$\Rightarrow r = \frac{60}{210} \times 100 = 30\%$

Put this value of r in (1):

$P = 210 \times \frac{100^2}{30 \times 30} = Rs.\frac{7000}{3}$

So, the amount after 2 years =

$$P(1+\frac{r}{100})^2 = \frac{7000}{3}(1+\frac{30}{100})^2 = \frac{7000}{3}\times\frac{13}{10}\times\frac{13}{10} = 3943.33 \approx \text{Rs.}3943$$

Hence, option C is the correct answer.

58. C

Sol. In every 3rd term, 5 is constant. First, the series is increased by 5 and then by 6.
So, the missing '?' mark number is 57.
Hence, option C is the correct answer.

59. C

Sol. Let the earnings for the month of December be 5x.
Then, the earnings in November will be 3x.
Now, the total annual earnings will be (3000 × 5) + 3200 + 3300 + 3400 + 3500 + 3600 + 3x + 5x = 32000 + 8x
Now, according to the question:
32000 + 8x = 4000 × 12
⇒ 8x = 16000
⇒ x = 2000
So, the required difference = 5x – 3x = 2x = 2(2000) = Rs. 4000
Hence, option C is the correct answer.

60. D

Sol. The population in the years 2016, 2015, and 2017 together = 612 + 456 + 548 = 1616
The population in the years 2018, 2019, and 2014 together = 575 + 488 + 470 = 1533
So, the required percentage = $\frac{1616-1533}{1533}\times 100 = \frac{83}{1533}\times 100 = 5.414\% \approx 5\%$
Hence, option D is the correct answer.