DELHI SUBORDINATE SERVICE SELECTION BOARD

DSSSB

PHARMACIST

Solved Papers

&

Practice Set

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CONTENT

SOLVED PAPERS

PRACTICE SET

Syllabus/Exam pattern

Section-A	
General awareness	20 marks each (100 question = 100 marks)
General intelligence & Reasoning Ability	
Arithmetical & Numerical Ability	
Hindi Language & Comprehension	
English Language & Comprehension	
Section-B	
Post Specific Subject (Pharmacy)	(100 question = 100 marks) • As per Diploma Pharmacy (PCI)

DELHI SUBORDINATE SERVICES SELECTION BOARD RECURITMENT

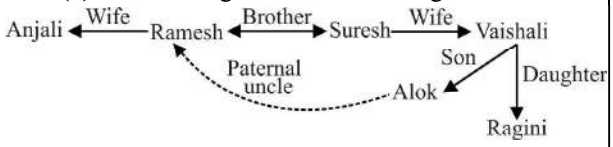
EXAM DATE-18-11-2021

General Ability

1. Ramesh and Suresh are brothers. Anjali is wife of Ramesh. Ragini and Alok are children of Vaishali, who is the wife of Suresh. How is Ramesh related to Alok?

(a) Paternal Uncle (b) Maternal Uncle
(c) Cousin (d) Father-in-law

Ans. (a) : On making blood-relation diagram :-



Hence, it is clear from above that Ramesh is paternal uncle of Alok.

2. Summaiya spends 60% of her monthly income on household items, 30% of the remaining on house rent and clothes, and saves 30% of the remaining. If her monthly salary is ₹60,000, then how much money does she save?

(a) ₹25,200 (b) ₹12,000
(c) ₹8,000 (d) ₹5,040

Ans. (d) : Given :-

Monthly salary of Summaiya = ₹60000

$\therefore$ Spend on household items $\Rightarrow 60000 \times \frac{60}{100} = ₹36000$

Remaining salary $\Rightarrow 60000 - 36000 = ₹24000$

Spend on house rent and clothes $= 24000 \times \frac{30}{100} = ₹7200$

Remaining salary $\Rightarrow 24000 - 7200 \Rightarrow 16800$

$\therefore$ Required saving money $\Rightarrow 16800 \times \frac{30}{100} \Rightarrow ₹5040$

3. The number of chairs in each row of a seminar hall is equal to the total rows in the hall. After removing 121 chairs from the hall, there were 10,488 chairs left. How many rows of chairs were there in the hall?

(a) 100 (b) 102
(c) 103 (d) 104

Ans. (c) : Total number of chairs in the seminar hall = 10488 + 121 $\Rightarrow$ 10609.

According to the question,

Required number of rows of chair in the hall

$= \sqrt{10609}$

$= 103$

4. Read the given statements and conclusions carefully. Assuming that the information given in the statements is true, even if it appears to be at variance with commonly known facts, decide which of the given conclusions logically follow(s) from the statements.

Statements:

Some birds are lizards

Some lizards are peacocks

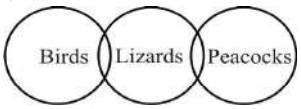
Conclusions:

I. Some birds are peacocks

II. Some peacocks are birds

(a) Only conclusion I folows
(b) Only conclusion II follows
(c) Both conclusions I and II follow
(d) Neither conclusion I nor II follows

Ans. (d) : On the making venn-diagram :- from given statements -



Conclusion : (I) (×)

(II) (×)

Hence, it is clear from above that neither conclusion I nor II is followed.

5. Four words have been given, out of which three are alike in some manner and one is different. Select the word that is different.

(a) Red (b) Green
(c) Pink (d) Blue

Ans. (c) : According to given options, red, green and blue are primary colours whereas. Pink is not primary colour. Hence, option (c) is odd one.

6. There are zebras and parrots in a zoo. By counting heads, they are a total of 90. The number of legs is 210. How many parrots are there?

(a) 60 (b) 65
(c) 72 (d) 75

Ans. (d) : Let the number of parrot be x

$\therefore$ Zebras (90–x)

According to the question.

$2x + 4(90-x) = 210$

$2x + 360 - 4x = 210$

$2x = 150$

$x = 75$

Hence, number of parrots = 75

7. A total of 415 coins of ₹2 and ₹5 denominations make a sum of ₹,550. The number of ₹ coins is:

(a) 120 (b) 144
(c) 220 (d) 240

Ans. (d) : Let the number of ₹2 coins be x.

$\therefore$ Number of ₹ 5 coins = (415–x)

According to the question.

$2x + 5(415-x) = 1550$

$2x + 2075 - 5x = 1550$

$3x = 2075 - 1550$

$3x = 525$

$x = 175$

$\therefore$ Number of ₹ 5 coins = 415–175 = 240

8. Select the number set that is analogous to the given set?

(21, 7, 126)

(a) (42, 14, 294) (b) (33, 11, 196)

(c) (33, 11, 198) (d) (42, 16, 252)

Ans. (c) : Just as, (21, 7, 126)

$$\frac{126+21}{7} \Rightarrow \frac{147}{7} \Rightarrow 21$$

Same as, from option (c)

(33, 11, 198)

$$\frac{198+33}{11} = \frac{231}{11} = 21$$

Hence, option (c) is correct.

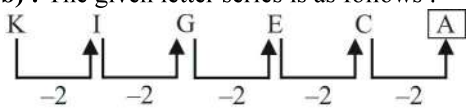
9. Find the missing letter in the following letter series.

K, I, G, E, C?

(a) B (b) A

(c) Z (d) Y

Ans. (b) : The given letter series is as follows :-



Hence, ? = A

10. Which of the following words is different from the rest in a certain manner?

(a) Cow (b) Goat

(c) Zebra (d) Horse

Ans. (c) : According to the given options, option (c) zebra is different one because it is not pet animal while other options, cow, horse and goat are pet animals. Hence, option (c) is different.

11. Power is to watt as Mass is to_____.

(a) Balance (b) Weight

(c) Kilogram (d) Item

Ans. (c) : Just as, watt is SI unit of power. Same as, Kilogram is SI unit of mass hence, option (c) is correct.

12. Select the set in which the numbers are related in the same way as the numbers of the following set.

(a) (24, 4, 6) (b) (200, 5, 20)

(c) (18, 3, 5) (d) (40, 20, 20)

Ans. (b) : Just as,

$\left(\overset{I}{16}, \overset{II}{4}, \overset{III}{2}\right) \Rightarrow 2 \times 4 \times 2 \Rightarrow 16$ (III × II × 2 = I)

Same as, from option (b),

$\left(\overset{I}{200}, \overset{II}{5}, \overset{III}{20}\right) \Rightarrow 20 \times 5 \times 2 = 200$ (III × II ×2 = I)

Hence, option (b) is correct.

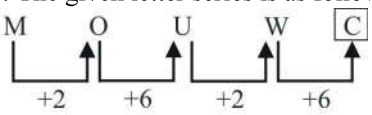
13. Select the option that can replace the question mark (?) in the following series.

M, O, U, W, ?

(a) Z (b) B

(c) C (d) Y

Ans. (c) : The given letter series is as follows :-



Hence, ? = C

14. Read the below two Statements carefully and identify which of the Conclusions are definitely true.

Statement:

(A) No Bed is a Room.

(B) All Lamp are Bed.

Conclusion:

I. No Lamp is a Room.

II. All Lamps are not Rooms.

III. All Rooms are not Lamps.

IV. Some Lamps are Rooms.

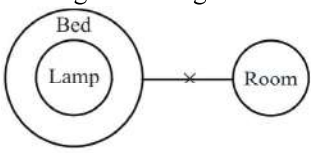
(a) Only conclusion I follows

(b) Only conclusion II follows

(c) Neither conclusion III and conclusion II follows

(d) Conclusion I, II & III follow

Ans. (d) : On making Venn-diagram :



Conclusion : (I) (✓) (III) (✓)

(II) (✓) (IV) (×)

Hence, option (d) is correct

15. Read the Statement carefully and observe.

Statement:

(A) All FLOWERS are LEAF.

(B) All LEAF are ROOTS.

Conclusion:

I. All ROOTS are FLOWERS.

II. All FLOWER are ROOTS.

III. Some ROOTS are FLOWERS

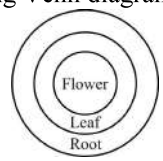
(a) Only conclusion I follows

(b) Only conclusion II follows

(c) Neither conclusion I and conclusion II follows

(d) Both conclusions II and III follows

Ans. (d) : On making Venn diagram :



Conclusion : (I) (×)

(II) (✓)

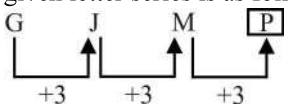
(III) (✓)

Hence, option (d) both conclusions II and III follows.

16. Select the option that can replace question mark (?) in the following series.
G, J, M, ?

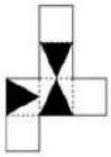
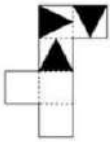
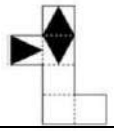
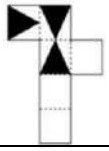
(a) Q (b) P
(c) O (d) R

Ans. (b) : The given letter series is as follow –



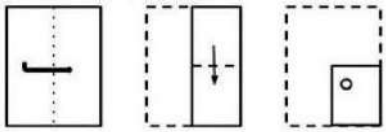
Hence, ? = P

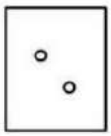
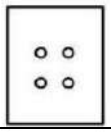
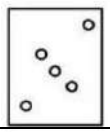
17. Which of the following patterns can be folded to make the cube shown in question?

(a) 
(b) 
(c) 
(d) 

Ans. (d) : According to the given question, option figure (d) can be folded to make the given cube.
Hence, option (d) is correct.

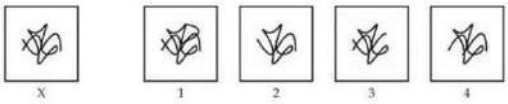
18. The sequence of folding a piece of paper and the manner in which the folded paper has been cut is shown in the following figures. How would this paper look when unfolded?



(a) 
(b) 
(c) 
(d) 

Ans. (c) : According to the question, on folding and cutting the given paper option figure (c) can be seen when we unfold it.
Hence, option (c) is correct.

19. Select the figure (from 1, 2, 3 and 4) in which the given (X) is embedded (rotation is NOT allowed).



(a) 1 (b) 2
(c) 3 (d) 4

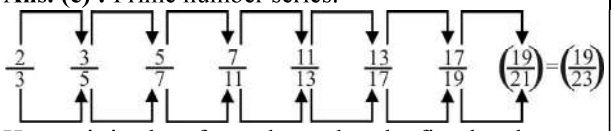
Ans. (a) : According to the question, figure (×) is embedded in figure number 1. Hence option (a) is correct.

20. Select the option that is correct for the bracketed terms with respect to their inclusion in the given series.

$\frac{2}{3}, \frac{3}{5}, \frac{5}{7}, \left(\frac{7}{11}\right), \frac{11}{13}, \frac{13}{17}, \frac{17}{19}, \left(\frac{19}{21}\right)$

(a) Both the bracketed terms are correct
(b) Both the bracketed terms are incorrect
(c) The first bracketed term is correct, and second term is incorrect
(d) The first bracketed term is incorrect, and second term is correct

Ans. (c) : Prime number series.



Hence, it is clear from above that the first bracket term is correct and second term is incorrect.
Because here is given the sequence of prime number.

General Awareness

21. Justice N.V. Ramana was on April 2021 sworn in as the _____ Chief Justice of India (CJI).

(a) 45th (b) 47th
(c) 48th (d) 50th

Ans. (c) : Justice NV Ramanna had taken oath as 48th Chief Justice of India in April 2021. As on 1 May 2024, The 50th CJI is Justice D.Y. Chandrachud.

22. Who among the following was the first chairperson of the Lokpal?

(a) Shri Justice Ranjan Gogoi
(b) Shri Justice Pinaki Chandra Ghose
(c) Shri Justice Arun Mishra
(d) Shri Justice Vikram Nath

Ans. (b) : In March 2019, Shri Justice Pinaki Chandra Ghosh was appointed as India's first Lokpal. Current Chairperson of Lokpal (May 2024) is Justice A.M. Khanwilkar. The term of office for Lokpal Chairman and members is 5 years or till the age of 70 years. President of India appoints lokpal based on recommendation of selection committee.

23. Who among the following launched the POSHAN Abhiyaan that directs the attention of the country towards the problem of malnutrition and address it in a mission-mode in 2018?

(a) Shri Narendra Modi
(b) Smt. Smriti Irani
(c) Shri Ramesh Pokhriyal
(d) Smt. Nirmala Sitharaman

Ans. (a) : POSHAN Abhiyan was launched by Prime Minister Narendra Modi on 8th March 2017 with an aim to achieve improvement in nutritional status of adolescent girls, pregnant woman and lactating mothers in a time bound manner by adopting a synergised and result oriented approach.

24. Who among the following is the first Indian Prime Minister to preside over UNSC meeting?
(a) Indira Gandhi (b) I.K Gujral
(c) Manmohan Singh (d) Narendra Modi

Ans. (d) : PM Narendra Modi was the first Indian Prime Minister to Preside over the United Nations security council meeting on August 9, 2021. The meeting was held through Video Conferencing. It was eighth term of India as a non-permanent member of the UNSC.

25. Uchhatar Avishkar Yojana (UAY) was announced in _____, with a view to promoting innovation of a higher order that directly impacts the needs of the Industry and thereby improves the competitive edge of Indian manufacturing.
(a) 2014 (b) 2015
(c) 2016 (d) 2017

Ans. (b) : Ucchtar Avishkar Yojana, was announced by Ministry of Human Resource Development in the IIT council meeting on October 6, 2015. The scheme was applicable to the projects proposed by IIT's initially. It objective was to promote innovation of a higher order that directly impacts the needs of the industry and thereby improving the competitive edge of Indian manufacturing.

26. Which Indian scientist introduced Sixth Sense – wearable gestural computing technology to the world in 2009?
(a) Pranav Mistry (b) Shinjini Kundu
(c) Dinesh Bharadia (d) Jagdish Chaturvedi

Ans. (a) : Pranav Mistry introduced sixth sense-wearable gestural computing technology to the world in 2009. Sixth sense is a 'wearable gestural' interface that augments the physical world around us with digital information and its us use natural hand gestures to interact with that information.

27. Who among the following has been honoured with the Scientific and Engineering Academy Award at the Oscars Scientific and Technical Awards 2018 at Beverly Hills in Los Angeles, California?
(a) Shiva Ayyadurai
(b) Vikas Sathaye
(c) Anil Kakodkar
(d) Subramaniam Ramadorai

Ans. (b) : Vikas Sathaye has been honoured with the scientific and engineering Academy award at the Oscars scientific and technical awards 2018 at beverly Hills, in Los Angeles, California.

28. Which district among the following had the highest average literacy rate as per the Census 2011?
(a) Champhai (b) Mahe
(c) Kottayam (d) Serchhip

Ans. (d) : Serchhip district, in the Indian state of Mizoram had the highest average literacy rate as per the census 2011.

29. A Tribal Health and Nutrition Portal has been launched by the name of _____ by Ministry of Tribal Affairs in August 2020.
(a) Swasthya (b) Alekh
(c) Poshan (d) Takat

Ans. (a) : Swasthya : National Tribal Health App, a Tribal health and Nutrition Portal has been launched by Ministry of Tribal affairs in August 2020. It aims to facilitate the exchange of ideas, information and learning among stakeholders, leading to evidence based and data driven decision making.

30. The Indian Air Force and the Air Force of which other country participated in the Ex Desert Knight-21 drill between January 20 to 24 in 2021?
(a) USA (b) UK
(c) France (d) Serbia

Ans. (c) : Indian Air force (IAF) and French Air and space force participated in a bilateral exercise. Ex-Desert knight-21 at airforce station jodhpur from 20 to 24th january 2021.

31. In which year was the Defence Research and Development Organization established?
(a) 1947 (b) 1952
(c) 1956 (d) 1958

Ans. (d) : Defence Research and Development organization was established in 1958. If functions under ministry of defence, having headquarter in New Delhi. Currently (may 2024) Mr. Sameer Y. Kamat is its chairman.

32. Which one of the following is an indigenously developed rocket launched from a Multi-Barrel Rocket Launcher (MBRL)?
(a) NAITIKA ROCKET (b) PINAKA ROCKET
(c) PITARA ROCKET (d) SHAKTI ROCKET

Ans. (b) : PINAKA rocket is an Indigenously developed rocket launched from a Multi-Barrel Rocket Launcher (MBRL). It has been developed by DRDO for the Indian army. The system has a maximum range of 40 km for mark-1 and 60 km for mark-1 enchanced version.

33. The _____ was India's first indigenously developed ballistic missile produced by the Integrated Guided Missile Development Program (IGMDP).
(a) Prithvi (b) Agni
(c) Akash (d) Vayu

Ans. (a) : The Prithvi was India's first indigenously developed ballistic missile produced by the integrated guided missile development program (IGMDP). It a tactical surface to surface short range missile, which is deployed by India's range strategic forces command.

34. India's first indigenous _____ is, IAC-1.
(a) Aircraft carrier (b) Rocket Launcher
(c) Missile Launcher (d) Nuclear Warhead

Ans. (a) : India's first indigenous **Aircraft carrier** is IAC-1, INS vikrant was the first aircraft carrier to even guace the arsenal of the Indian Navy. IAC stands for Indirect aircraft carrier.

35. As per Hindu Calendar 'Hemant Ritu' will fall in which period?

(a) January-March
(b) Mid July-September
(c) Mid October-December
(d) April-June

Ans. (c) : As per Hindi calender, 'Hemant Ritu' falls in mid october-December.

36. Which one of the following state is located in the Western Himalayas?

(a) Arunachal Pradesh (b) Nagaland
(c) Uttarakhand (d) Mizoram

Ans. (c) : The state of uttarakhand is located in western himalayas. Its winter capital is dehradun and summer capital is Bhararisain. The highcourt of the state is located in Nainital. It was formed on 9 november 2000 after being bifurcated from uttar pradesh.

37. In which state will you find the rivers Lahen, Lachung, Rangit and Rangpo?

(a) Sikkim (b) Jharkhand
(c) Assam (d) Chhattisgarh

Ans. (a) : River Lahen, Lacheeng, Rangit and Rangpo are found to be flowing in sikkim. The teesta River is largest River of Sikkim.

38. In which year was the first census of independent India done?

(a) 1947 (b) 1949
(c) 1951 (d) 1954

Ans. (c) : The first census of Independent India was carried out in 1951. Total population of India after enumeration in 1951 was 36.1 crore. R.A. Gopalaswami was the commissioner of the census.

39. As per 'Household Social Consumption: Education in India as part of the 75th round of National Sample Survey – from July 2017 to June 2018' _____ is the most literate state in India.

(a) Goa (b) Sikkim
(c) Mizoram (d) Kerala

Ans. (d) : As per household social consumption : Education in India as part of the 75th round of national sample survey from july 2017 to june 2018, kerala was the most literate state in India.

40. Where in India was the headquarters of The Theosophical Society established in India in the year 1882?

(a) Calcutta (b) Madras
(c) Lucknow (d) Delhi

Ans. (b) : In 1882, the headquarters of the Theosophical society was established in Adyan near Madras in India. The Theosophical society was founded by Madame Blavatsky and Col. olcott in 1875 in newyork. Annie Besant was the second president of Theosophical society of India.

Arithmetic Ability

41. While calculating the average marks of 40 students of a class, marks of three students who actually scored 18 marks were noted as 28 by mistake. After correcting the error, the average of marks will reduce by.

(a) 0.9 (b) 0.75
(c) 0.6 (d) 0.25

Ans. (b) :
Let, Average marks of 40 students be x.
Total marks of 40 students = 40 x.
According to the question,
Actual marks scored by three students = 3 × 18 = 54
Mistake marks scored by three students = 28 × 3 = 84
Marks reduced = 40x + 84 – 54 – 40x = 30

$\therefore$ Average marks reduced = $\frac{30}{40}$

= 0.75

42. Find the single discount equivalent to series of discounts of 10%, 15% and 18%.

(a) 62.73% (b) 43%
(c) 37.27% (d) 14.33%

Ans. (c) : Given,

D_1 = 10% D_2 = 15% D_3 = 18%

Single equivalent discount % of 10% and 15%

$$= D_1 + D_2 - \frac{D_1 D_2}{100}$$

$$= 10 + 15 - \frac{10 \times 15}{100}$$

$$= 25 - 1.5 = 23.5\%$$

Single equivalent discount % of 23.5 and 18%

$$= 23.5 + 18 - \frac{23.5 \times 18}{100}$$

$$= 41.5 - 4.23$$

$$= 37.27\%$$

Hence, Single equivalent discount of 10%, 15% and 18% is 37.25%

43. The marked price of an article is ₹5200. Two successive discounts of 10% and 20% are offered on it due to season end. At what price is the article available to customers?

(a) ₹3690 (b) ₹3744
(c) ₹3750 (d) ₹3875

Ans. (b) : Given-
Marked Price (Mp) = ₹ 5200
D_1 = 10%
D_2 = 20%
Selling price (SP) = ?

$$\therefore SP = MP\left(\frac{100 - D_1}{100}\right) \times \left(\frac{100 - D_2}{100}\right)$$

$$= 5200 \times \left(\frac{100 - 10}{100}\right) \times \left(\frac{100 - 20}{100}\right)$$

$$= 5200 \times \frac{90}{100} \times \frac{80}{100}$$
$$= ₹\ 3744$$
Hence, at ₹ 3744 article is available to customers.

44. A shopkeeper offers a discount of 12% on a TV and sells it for ₹61600. What is the marked price (in Rs) of the TV?
(a) 68500 (b) 69000
(c) 70000 (d) 72500

Ans. (c) :
Let the Marked Price (MP) of TV = ₹x
Given- Selling Price (SP) of TV = ₹61600
Discount (D) = 12%
$$\therefore \text{MP} = \frac{\text{SP} \times 100}{(100 - \text{D})}$$
$$\text{MP} = \frac{61600 \times 100}{(100 - 12)}$$
$$= \frac{61600 \times 100}{88}$$
$$= ` \ 70000$$
Hence, Marked Price of TV = ₹ 70000

45. A and B scored 440 and 520 marks respectively in an examination. If A scores 55% marks, find the percentage of marks scored by B.
(a) 65% (b) 64.5%
(c) 64% (d) 62%

Ans. (a) : Let the total mark be 100%
Mark scored by A = 440
$\because$ 440 = 55%
$$\therefore 520 = \frac{55}{440} \times 520$$
$$= 65\%$$
Hence, B scored = 65%

46. Anita scored 72% marks out of 600 marks in an examination. She scored 42 marks more than shailja. Find the percentage of marks scored by Shailja.
(a) 60% (b) 62.5%
(c) 65% (d) 66%

Ans. (c) : According to the question –
$$\text{Marks scored by Anita} = \frac{600 \times 72}{100} = 432$$
Marks scored by shailja = 432 – 42 = 390
$$\text{Required percentage} = \frac{390}{600} \times 100 = 65\%$$
Hence Shailja scored 65% marks in examination

47. Abhay scored 79% marks and Joseph scored 83% marks in an examination. If difference in their marks is 32, then what are the maximum marks of the examination?
(a) 750 (b) 800
(c) 850 (d) 900

Ans. (b) : According to the question,
Let the maximum marks in examination = 100%
Difference in % marks of Abhay and Joseph
= 83% – 79% = 4%
$\because$ 4% = 32
$$\therefore 100\% = \frac{32}{4} \times 100 = 800$$
Hence, The maximum marks in examination = 800

48. A shopkeeper sold an item for ₹56 at a profit percent equal to the cost price. What is the cost price?
(a) ₹38 (b) ₹40
(c) ₹38.5 (d) ₹42

Ans. (b) : Let the cost price of item = ₹x
$$\because \text{profit} = x \times \left(\frac{x}{100}\right) = \frac{x^2}{100}$$
$\therefore$ Selling price = CP + Profit
$$56 = x + \frac{x^2}{100}$$
$$5600 = x^2 + 100x$$
$$x^2 + 100x - 5600 = 0$$
$$x^2 + 140 - 40x - 5600 = 0$$
$$x\,(x + 140) - 40\,(x + 140) = 0$$
$$(x - 40)\,(x + 140) = 0$$
$$x = 40$$
Hence, cost price (cp) of an item = ₹40

49. A shopkeeper sells two pen drives for ₹1140. The cost price of the first is equal to the selling price of the second pen drive. If he sells the first pen drive at 10% loss and the second pen drive at 20% gain, then what is his gain or loss percent? (Correct to one decimal place)
(a) 3.2% profit (b) 3.5% profit
(c) 3.6% profit (d) 3.5% loss

Ans. (c) : Given that –
cp of Ist pendrives = SP of IInd pendrives
Let the SP of first pendrive = ₹x
$$\frac{x \times 100}{90} = 1140 - x$$
$$10x = 10260 - 9x$$
$$19x = 10260$$
$$x = ₹540$$
$$\text{cp of Ist pendrive} = 540 \times \frac{100}{90} = ₹600$$
$$\text{cp of IInd pendrive} = \frac{1140 - 540}{120} \times 100 = \frac{600}{120} \times 100$$
$$= 500$$
Total cp = 600 + 500 = ₹ 1100
Profit = 1140 – 1100 = ₹ 40
$$\text{Profit \%} = \frac{40}{1100} \times 100$$
$$= 3.6\%$$

50. Rahul calculates his profit on the cost price whereas Sushil calculates it on the selling price. They find that the difference in their profits is ₹80. The selling prices of both of them are the same and both of them get 20% profit. Find their selling price.

(a) ₹2200 (b) ₹2250
(c) ₹2275 (d) ₹2400

Ans. (d) : Let the selling price = ₹S
Let the cost price of Rahul = ₹C_1
Let the cost price of Sushil = ₹C_2

$$\text{Profit of Sushil} = 20\% = \frac{S-C_2}{S}\times 100$$

$$\Rightarrow \frac{1}{5} = \frac{S-C_2}{S} = C_2 = S - \frac{5}{S}$$

$$C_2 = \frac{4S}{5}$$

$$\text{Profit of Rahul} = 20\% = \frac{S-G}{C_1}\times 100$$

$$= \frac{C_1}{5} = S - C_1 \Rightarrow C_1 = \frac{5S}{6}$$

$$\text{Difference} = (S-C_2)-(S-C_1) = ₹80$$

$$= \left(S-\frac{4S}{S}\right)-\left(S-\frac{5S}{6}\right) = ₹\ 80$$

$$= \frac{S}{5}-\frac{S}{6} = ₹80$$

$$= \frac{6S-5S}{30} = ₹80$$

S = ₹ 2400
Hence selling price will be ₹2400

51. A certain sum of money is divided among A, B and C such that for each 100 rupees of A, B has 60 rupees and C has 25 rupees. If C's share is ₹280, then find the sum of money.
(a) ₹2000 (b) ₹2050
(c) ₹2060 (d) ₹2072

Ans. (d) : Given that
Ratio = 100 : 60 : 25
= 20 : 12 : 5 ⇒ 20x : 12x : 5x (let)
According to the question,
C's share = 5x = 280
x = ₹ 56
A's share = 20x = 56 × 20 = ₹ 1120
B's share = 12x = 56 × 12 = 672
Sum of money = 280 + 672 + 1120 = ₹2072
Hence, sum of money is ₹ 2072

52. The ratio of income of A and B last year was 2:3 Ratios of their respective income of last year and this year are 3:4 and 4:5 respectively. If the sum of their present incomes is ₹59136, then find the present income of A.
(a) ₹24000 (b) ₹24576
(c) ₹25000 (d) ₹25750

Ans. (b) : Let the ratio of the incomes of A and B last year was = 2 : 3……(i)
The ratio of income of A the last year to the present year is = 3x : 4x ……..(ii)
The ratio of income of B the last year to the present year is = 4y : 5y……..(iii)
According to question–
3x : 4y = 2 : 3

$$\frac{3x}{4y} = \frac{2}{3} \Rightarrow x = \frac{8y}{9}$$

Total income of present year = ₹59136
4x + 5y = 59136

$$4\times\frac{8y}{9} + 5y = 59136$$

y = ₹6912

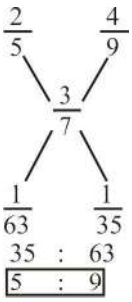
$$\text{Present income of A} = 4x = 4\times\frac{8y}{9}$$

$$= 4\times\frac{8}{9}\times 6912$$

= ₹24576
Hence, option (b) is correct answer.

53. Ratio of acid and water in solution A is 2:3 and that in solution B is 4:5. In what ratio the two solutions are mixed so that the new solution has acid and water in the ratio 3:4?
(a) 5:8 (b) 1:2
(c) 5:9 (d) 2:5

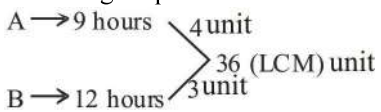
Ans. (c) : Given that,
Solution 'A' Solution 'B'



Hence the two solution are mixed in ratio 5 : 9.

54. A and B can do a piece of work in 9 and 12 days respectively. How many days will they do? if they both work together?
(a) 5 (b) $5\frac{1}{7}$
(c) $5\frac{1}{2}$ (d) $5\frac{3}{4}$

Ans. (b) : According to question



Total efficiency = (4 + 3) unit

$$\text{Total days} = \frac{36}{7} = 5\frac{1}{7}\text{ days}$$

Hence, A and B together can do the work in $5\frac{1}{7}$ days.

55. A, B and C are three pipes connected to a water tank. Pipes A and B together can fill the tank in 12 hours. Pipes B and C together can fill the tank in 15 hours. If pipes A and C together can fill the tank in 20 hours, them in how much time will pipe C alone fill the tank?

(a) 55 hours
(b) 58 hours 30 minutes
(c) 59 hours 45 minutes
(d) 60 hours

Ans. (d) : Given that,

$A + B \longrightarrow 12$ hours $\xrightarrow{5}$
$B + C \longrightarrow 15$ hours $\xrightarrow{4}$ 60 (LCM)
$C + A \longrightarrow 20$ hours $\xrightarrow{3}$

Efficiency of (A + B + C) = 6
Efficiency of C = (A + B + C) – (A + B)
= 6 – 5 = 1 unit

So, C can fill the tank $= \frac{60}{1} = 60$hours

So, option (d) is correct answer.

56. Two persons A and B undertake to do a piece of work for ₹4900. A alone can do it in 8 days while B alone can do it in 10 days. With the assistance of another person C they finished the work in A days. What is the share of B?

(a) ₹1920 (b) ₹1950
(c) ₹1960 (d) ₹1975

Ans. (c) : Given that,

A+B+C→4 days $\xrightarrow{10}$
A →8 days
B →10 days $\xrightarrow{5}$ 40 (LCM)
$\xrightarrow{4}$

We know that wages is divided on the basis of efficiency.

Share of B $= \frac{4}{10} \times 4900$
= ₹1960

So, option (c) is correct answer.

57. 9 men and 18 women can do a work in 6 days. 36 men and 12 women can do the same work in 3 days. How many days are required for 15 men and 25 women to do the same work?

(a) $3\frac{1}{2}$ (b) 4
(c) $4\frac{1}{3}$ (d) 5

Ans. (b) : According to question –

(9 M + 18F) × 6 = (36 M + 12 F) × 3

$1M = \frac{4}{3}F$.

We know that, $\frac{M_1D_1H_1}{W_1} = \frac{M_2D_2H_2}{W_2}$

$\left(36 \times \frac{4}{3} + 12\right) \times 3 = \left(15 \times \frac{4}{3} + 25\right) D_2$

$60 \times 3 = 45 \times D_2$

$D_2 = 4$ days

So, 15 men and 25 women can do this work in 4 days.

58. Two persons are walking in the same direction at the speed of 3 km/h and 5 km/h respectively. If a train moving in the same direction overtakes them in 20 and 21 seconds respectively, then find the length of the train (in m).

(a) 220 (b) $220\frac{1}{2}$
(c) 225 (d) $233\frac{1}{3}$

Ans. (d) : Let the speed of train is x km/h and length is L.

According to question,

$(x–3) \times 20 \times \frac{5}{18} = (x–5) \times 21 \times \frac{5}{18}$

$20x – 60 = 21x – 105$

x = 45 km/h

Then length of train

$= (45–3) \times 20 \times \frac{5}{18}$

$= 42 \times 20 \times \frac{5}{18}$

$= \frac{700}{3}$ m.

$= 233\frac{1}{3}$ m.

So, option (d) is correct answer.

59. A boat covers 32 km upstream and 36 km downstream in 7 hours, while it covers 48 km upstream and 24 km downstream in 8 hours. Find the speed of the boat in still water (in km/h).

(a) 8 (b) 9.2
(c) 10 (d) 10.5

Ans. (c) : Given that,

$\frac{32}{U} + \frac{36}{D} = 7$ --------- (i)

and $\frac{48}{U} + \frac{24}{D} = 8$ ----- (ii)

Here U = Upstream = U–V
D = Down stream = U + V
By (i) and (ii)
U = 8 km/h
D = 12 km/h.
Speed of boat = U + D = (U–V) + (U + V)
= 2U = 20
U = 10 Km/h
So, speed of boat is 10 km/h.

60. The value of $(4.5 \times 4.5 \times 4.5 \times 4.5) \div 225 \div 25 + 5^3$ is:

(a) 128.0528 (b) 125.0729
(c) 124.0829 (d) 125.0739

Ans. (b) : Given that,
$(4.5 \times 4.5 \times 4.5 \times 4.5) \div 225 \div 25 + 5^3$
$= \frac{410.0625}{225 \times 25} + 125$
$= 125.0729$
So, option (b) is correct answer.

General English

61. Fill in the blank using the correct option. In case no article is needed, select option No Article.
I was born in _____ state of Uttarakhand in north India.
(a) a (b) an
(c) the (d) No Article

Ans. (c) : In the blank provided, Article 'the' is appropriate to be used. Definite article, 'the' is used with any common noun when the meaning is specific.
Ex- The USA, The UK, The UAE.
Correct sentence – I was born in <u>the</u> state of Uttarakhand in north India.

62. Fill in the blank using the correct option. In case no article is needed, select option No Article.
We dressed the little girl as _____ Indian gypsy.
(a) a (b) an
(c) the (d) No Article

Ans. (b) : In the given blank option (b) article 'an will be used. Because with words starting with vowel article 'an' is used.
Correct sentence – We dressed the little girl as <u>an</u> Indian gypsy.

63. Fill in the blank using the correct option. In case no article is needed, select option No Article.
My folding umbrella couldn't shield me from _____ heavy downpour
(a) a (b) an
(c) the (d) No Article

Ans. (c) : option (c) definite article (the) is used to refer to specific things (The heavy downpour).
'The' is also used to say something about a noun (umbrella) here.
Correct sentence –
My folding umbrella couldn't shield me from <u>the</u> heavy downpour

64. The following text contains four underlined words or phrases. One is incorrect. Choose the incorrect option.
With good teaching, <u>dyslexics</u> can <u>eventually</u> learn to read, but they <u>often</u> read more slowly <u>then</u> others.
(a) dyslexics (b) eventually
(c) often (d) then

Ans. (d) : Among all underlined words or phrases, option (d) then is incorrect. Because with 'more' structure 'than' is used in comparative sentences.
Correct sentences –
With good teaching, <u>dyslexics</u> can <u>eventually</u> learn to read, but they <u>often</u> read more slowly <u>than</u> others.

65. Choose the correct meaning of the following idiom from the options given below:
Close fisted
(a) Miser (b) Spendthrift
(c) Generous (d) Powerful

Ans. (a) : The meaning of given Idiom, 'closefisted' (unwilling to part with money) is expressed by option (a) miser (A person who hates to spend money).
Meaning of other options are-
Spendthrift - Spending money carelessly
Generous- Happy to give more money than is usual as expected

66. Choose the correct one word substitution of the given sentence from the options given below:
A woman's handbag in earlier days was called as _____.
(a) Holdall (b) Reticule
(c) Backpack (d) Wallet

Ans. (b) : The one word substitution for the given sentence A woman's handbag in earlier days was called as option (b) reticule - (A women's small bag or purse).
Meaning of other option are –
Holdall - A large bag that is used for carrying clothes
Backpack- A large bag, often on a metal frame, that you carry on your back while travelling.

67. Read the following sentence and identify the part that has an error.
She spoke /so soft/ that we could / hardly hear her.
(a) She spoke (b) So soft
(c) That we could (d) Hardly hear her

Ans. (b) : In the given sentence, option (b) so soft, need to be replaced with softly (Adverb). Spoke is a verb and softly is the adverb. Softly describes the action of the lady, how the lady spoke.
Correct sentence – She spoke so <u>softly</u> that we could hardly hear her.

68. Read the following sentence and identify the part that has an error.
Anu said to her mother, / "Please don't buy/ the expensive bags, /buy the cheaper one's."
(a) Anu said to her mother
(b) Please don't buy
(c) the expensive bags
(d) buy the cheaper one's

Ans. (d) : Error lies in part (d) of the sentence. Where in place of buy the cheaper one's, the structure would be, 'buy the cheaper one'. Because phrase cheaper one is used when you wish to distinguish one item from another based on its cost.
<u>Correct sentence</u>
Anu said to her mother, "Please don't buy the expensive bags, <u>buy</u> the cheaper one.

69. Identify the segment in the sentence, which contains the grammatical error.
I do not/ like to laugh/ above his/ silly jokes.

(a) I do not (b) Like to laugh
(c) Above his (d) Silly jokes

Ans. (c) : Part (c) of the sentence contains error. Here preposition 'at' will be used instead of 'above'. Laugh at is an example of fixed preposition.
Correct sentence – I do not like to laugh at his silly jokes.

70. Identify the segment in the sentence, which contains the grammatical error.
Although it was/ very cold outside / even we went/ for a walk.
(a) Although it was (b) Very cold outside
(c) Even we went (d) For a walk

Ans. (c) : Part (c) even we went is erroneous. Here even will be removed. Because it is an example of complex sentence, which consists of an independent clause "We went for a walk" and dependent clause" Although it was very cold outside.
Correct sentence – Although it was very cold outside, we went for a walk.

71. Select the meaning of the underlined idiom in the given sentence.
What the speaker said was all stuff and nonsense.
(a) Absurd (b) Effective
(c) Relevant (d) Impressive

Ans. (a) : The meaning of given idiom, "stuff and nonsense'- (Utter foolishness) is expressed by option (a) absurd - (wildly unreasonable/illogical). other options contain different meaning.

72. Fill in the blank with the most appropriate idiom. The meaning of the idiom is given in brackets for guidance.
The detective didn't realize that he was _____ (making a mistake) the wrong tree by falling prey to the wrong version of the story.
(a) Climbing down (b) Barking up
(c) Barking down (d) Climbing up

Ans. (b) : Option (b) barking up the wrong tree - (To follow the wrong course, committing mistake) would be the most appropriate idiom to be used in the given blank. As it provides exact grammatical sense to the sentence.
Correct sentence – The detective did not realize that he was barking up the wrong tree by falling prey to the wrong version of the story.

73. Select the one-word substitute for the underlined group of words in the given sentence.
Today's board meeting was going to be a long one. I saw the secretary placing a long list of items to be discussed during the meeting on his table.
(a) Agenda (b) Schedule
(c) Timetable (d) Status

Ans. (a) : The correct one word substitution for the underlined group of words 'list of items to be discussed' will be option (a) Agenda - (outline of things to be considered)
Meaning of other options are-
Schedule - A plan of things that must be done
Time table - A schedule showing time
States - The position of someone or something.

74. Choose the correct ANTONYM of the given word.
FOOLISH
(a) Wise (b) Absurd
(c) Graceful (d) Simple

Ans. (a) : The correct antonym of the given word foolish- (silly, not sensible) would be option (a) wise - (Having the knowledge to make good decisions)
Meaning possessed by other words in the given options-
Absurd - inappropriate
Graceful - showing elegance
Simple- Easy to understand, do, use.

75. Select the word which is closest in meaning to the word given below:
Recondite
(a) Conspicuous (b) Concealed
(c) Palpable (d) Responsible

Ans. (b) : Option (b) concealed- (Not allowed to be seen or known) will be closest in meaning to the given word Recondite - (Little known, Abstruse)
Meaning of other options are-
Conspicuous- clearly visible
Palpable - So intense as to seem almost tangible
Responsible - Having an obligation to do something

Question Numbers : (76 to 80)
In the following passage some words have been deleted. Fill in the blanks with the most suitable option. Choose the most appropriate option for each number.
The government has plans to set up a mobile phone manufacturing company in my town. It will (1)_____ as many as 2000 jobs across the country. The company (2)_____ is due to start production early next year will (3)_____ employment to 1500 people in its factory. Later, when the company begins operations in other (4)_____ of the country, there will be more employment (5)_____ for young people.

76. Choose the most appropriate option to fill blank no. 1.
(a) Create (b) Make
(c) Start (d) Discover

Ans. (a) : Option (a) create- (To cause something new to exist) will be the most appropriate option for the blank No. 1. As the given sentence talks about 'Job creation' through establishment of mobile manufacturing company. Other options give different meaning.

77. Choose the most appropriate option to fill blank no. 2.
(a) Who (b) Which
(c) What (d) Where

Ans. (b) : Option (b) 'which' will be appropriate for the blank No.-2. Because which (Pronoun is used to represent a specified antecedent (company).

78. Choose the most appropriate option to fill blank no. 3.

(a) Contribute (b) Serve
(c) Arrange (d) Provide

Ans. (d) : Option (d) provide- (make available/give) is the most appropriate option for the blank no. 3. Because the given sentence talks about the prospect of giving employment to 1500 people.

79. Choose the most appropriate option to fill blank no. 4.

(a) Units (b) Parts
(c) Models (d) Divisions

Ans. (b) : Option (b) parts (one of the pieces, areas that together with other forms the whole of something) will be the most appropriate option for the blank no. 4. As the given sentence talks about opening/starting its operation/factory in other areas of the country.

80. Choose the most appropriate option to fill blank no. 5.

(a) Courses (b) Moments
(c) Opportunities (d) Connections

Ans. (c) : Option (c) opprotunities (A chance to do/get something that you would like to do/get) will be the most apposite option for the given blank.
Because the sentence discusses the chances of giving jobs to young people in the country.

General Hindi

81. सम्बोधन कारक एकवचन 'हे देवी' का सही बहुवचन होगा-

(a) हे देवियो (b) हे देवियों
(c) हे देविओ (d) हे देविओं

Ans. (b) : सम्बोधन कारक एक वचन 'हे देवी' का सही बहुवचन रूप होगा- हे देवियों।
अतः विकल्प (b) सही उत्तर होगा।

82. 'सुरेश ने एक गज कपड़ा खरीदा।' वाक्य के रेखांकित अंश को किस विकल्प से प्रस्थापित किया जा सकता है?

(a) गज तक (b) गज भर
(c) गज भरा (d) पूरा गज

Ans. (b) : 'सुरेश ने एक गज कपड़ा खरीदा।' वाक्य के रेखांकित अंश को 'गजभर' शब्द से प्रस्थापित किया जा सकता है। अतः पूर्ण वाक्य इस प्रकार होगा-
'सुरेश ने गजभर कपड़ा खरीदा।'

83. निम्नलिखित में से कौन सा वाक्य 'एकवचन' का है?

(a) हरि तुम्हारे मामा हैं।
(b) प्रेम और हरि तुम्हारे मामा हैं।
(c) स्कूल के अनेक दाता है।
(d) साधु आए हैं।

Ans. (a) : दिये गये विकल्पों में 'हरि तुम्हारे मामा हैं।' एकवचन का वाक्य है। एकवचन शब्दों को आदर या सम्मान की प्रकृति में बहुवचन के रूप में प्रयोग होता है।
उदाहरण- पिता जी बाजार गये हैं।

84. वचन की दृष्टि से कौन सा वाक्य अशुद्ध है?

(a) हर एक कुआँ मीठे जल का नहीं होता।
(b) आपका दर्शन हुआ।
(c) उनके होंठ खुले।
(d) आँख से आँसू निकले।

Ans. (b) : दिये गये विकल्पों में 'आपका दर्शन हुआ।' वचन की दृष्टि से अशुद्ध है। इसका शुद्ध रूप इस प्रकार होगा-
आपके दर्शन हुए।'ध्यातव्य है कि दर्शन, आँसू, होश, हस्ताक्षर, प्राण ये सभी नित्य बहुवचन शब्द हैं।

85. किस विकल्प के सभी शब्द पर्यायवाची है?

(a) तनुज, पंडित, धरा (b) अगम, मीन, रम्य
(c) सागर, धन, तरु (d) तनय, सुत, बेटा

Ans. (d) : विकल्प (d) में दिये गये शब्द तनय, सुत, बेटा सभी शब्द पर्यायवाची हैं। ये सभी पुत्र के पर्यायवाची शब्द हैं।

86. उत्तारायण का विलोम शब्द होगा-

(a) उत्तरका (b) जवाब
(c) दक्षिणायन (d) पश्चिमका

Ans. (c) : दिये गये विकल्पों में 'उत्तरायण' का विलोम शब्द 'दक्षिणायन' होगा। अन्य विकल्प असंगत हैं।

87. निम्न में से किस मुहावरे का अर्थ 'विवेक भ्रष्ट होना' है।

(a) अंधा बनना (b) अंधा बनाना
(c) अंधा होना (d) अंधा दिखना

Ans. (c) : दिये गये विकल्पों में 'अंधा होना' मुहावरे का अर्थ 'विवेक भ्रष्ट होना' है।
वाक्य प्रयोग- रावण अपने अहंकार में इतना अंधा हो गया कि स्वयं भगवान राम से दुश्मनी ले लिया।

88. महत्वपूर्ण कथन, कहावत, संधि आदि को उद्धृत करने में किस विराम चिह्न का प्रयोग होता है?

(a) इकहरा उद्धरण चिह्न
(b) दुहरा उद्धरण चिह्न
(c) प्रश्नवाचक चिह्न
(d) विस्मयादिबोधक चिह्न

Ans. (b) : महत्त्वपूर्ण कथन, कहावत, संधि आदि को उद्धृत करने में दुहरा उद्धरण चिह्न का प्रयोग होता है।
उदाहरण- ''कबीर वाणी के डिक्टेटर थे।'' उपर्युक्त उदाहरण में दिया वाक्य 'हजारी प्रसाद द्विवेदी' का कथन है।

89. निम्नलिखित में कौन-सा वाक्य निश्चयार्थक वृत्ति का उदाहरण है-

(a) राकेश विद्यालय जाता है।
(b) तुम यहीं बैठे रहो।
(c) वह नदी पार कर सकता है।
(d) युद्ध होर हा होगा।

Ans. (a) : दिये गये विकल्पों में 'राकेश विद्यालय जाता है।' यह वाक्य निश्चयार्थक वृत्ति का वाक्य है। 'क्रिया के जिस रूप से कार्य के होने या न होने का अर्थ निश्चित रूप से प्रकट हो, वहाँ निश्चयार्थक वृत्ति होता है।'

90. हिंदी में क्रियाओं के कुल कितने अर्थ होते हैं?

(a) तीन (b) चार
(c) पाँच (d) छः

Ans. (*) : कार्य का करना या होना क्रिया कहलाता है। कर्म के आधार पर क्रिया दो प्रकार की होती है।
1. सकर्मक क्रिया 2. अकर्मक क्रिया
रचना के आधार पर क्रिया के पाँच भेद होते हैं-
1. सामान्य क्रिया 2. संयुक्त क्रिया 3. नामधातु क्रिया
4. प्रेरणार्थक क्रिया 5. पूर्णकालिक क्रिया

91. 'नियंत्रण रखना' अर्थ के लिए सर्वाधिक उपयुक्त मुहावरा है-

(a) अंकुश रखना (b) ऊँगली पर नचाना
(c) गाँठ बांधना (d) टाँग अड़ाना

Ans. (a) : दिये गये विकल्पों में 'अंकुश रखना' मुहावरा 'नियंत्रण रखना' अर्थ के लिये सर्वाधिक उपयुक्त मुहावरा है। अतः विकल्प (a) सही है।

92. 'अवधूत' का समानार्थी शब्द कौन सा है?

(a) जीवनपति (b) जनार्दन
(c) नृप (d) मुनि

Ans. (d) : दिये गये विकल्पों में 'अवधूत' का समानार्थी शब्द 'मुनि' है।
'अवधूत' के अन्य समानार्थी शब्द- महात्मा, साधु, विरक्त, संन्यासी आदि हैं।

93. आरंभद्योतक पक्ष का उदाहरण है-

(a) भीड़ बढ़ती जा रही है
(b) हम पढ़ चुके हैं।
(c) अब वह पढ़ने लगा है।
(d) उस समय राजेश बहुत रो रहा था।

Ans. (c) : दिये गये विकल्पों में 'अब वह पढ़ने लगा है।' आरंभद्योतक पक्ष का उदाहरण है। अन्य विकल्पों के विवरण इस प्रकार हैं- भीड़ बढ़ती जा रही है- नित्यता बोधक। हम पढ़ चुके हैं- समाप्ति बोधक।

94. 'सूर्य पूर्व दिशा में उदित होता है।' वाक्य में पक्ष है-

(a) नित्यताद्योतक पक्ष (b) सातत्यबोधक पक्ष
(c) आरंभद्योतक पक्ष (d) प्रगतिद्योतक पक्ष

Ans. (a) : 'सूर्य पूर्व दिशा में उदित होता है।' वाक्य में 'नित्यताद्योतक पक्ष' है। जिस वाक्य में कार्य के नित्य रूप से होने का बोध हो वहाँ नित्यताबोधक क्रिया का पक्ष होता है।

95. निम्नलिखित में से किस वाक्य में क्रिया अथवा भाव की प्रधानता का बोध हो रहा है-

(a) मुझसे बैठा नहीं जाता।
(b) राधा ने पत्र लिखा।
(c) सायंश अच्छी पुस्तकें पड़ता है।
(d) मैं काम के लिए कभी मना नहीं करता।

Ans. (a) : दिये गये विकल्पों में 'मुझसे बैठा नहीं जाता।' वाक्य में क्रिया अथवा भाव की प्रधानता का बोध हो रहा है।
जिस वाक्य में भाव की प्रधानता होती है तो भाववाच्य का वाक्य कहलाता है।

Question Numbers : (96 to 100)

उपरोक्त गद्यांश का अभ्यास करे और नीचे दिए गए प्रश्न के उत्तर दे।

जीवन का उद्देश्य एक रहस्य है। वह कठिन जरूर है फिर भी ऐसा नहीं है कि उसे जाना ही न जा सके। लगातार इस पर सोचते रहने से इसके भेदों से पर्दा उठा भी है। आधुनिक युग में अत्यंत सूक्ष्म तथा वैज्ञानिक आकलन से बने उपकरण सचमुच विलक्षण हैं। भौतिकशास्त्र के प्रचुर आविष्कार हमें उन विश्वसनीय उपायों का स्पष्ट आभास दे रहे हैं, जिन से जीवन को उन्नत बनाया जा सकता है। लेकिन सारे उपकरणों, रणनितियों तथा खोजों के बावजूद ऐसा लगता है कि हम अभी भी नियति के हाथ का खिलौना ही हैं। हम अपनी नियति तय नहीं कर पाते। प्रकृति हम पर हावी है। हम उसके आगे असहाय महसूस करते हैं। हमें प्रकृति के प्रभुत्व से मुक्ति पानी ही चाहिए और उसे पाने के लिए हमें एक लंबी यात्रा तय करनी होगी।

96. इस गद्यांश का उपयुक्त शीर्षक क्या होगा?

(a) जीवन की रणनीति (b) नियति का खेल
(c) जीवन का रहस्य (d) प्रकृति का प्रभाव

Ans. (c) : दिये गये गद्यांश का उपयुक्त शीर्षक 'जीवन का रहस्य' होगा।

97. 'नियति के हाथ का खिलौना'-इसका क्या तात्पर्य है?

(a) भाग्य का खेल
(b) प्रकृति के आगे असहाय महसूस करना
(c) नियति के हाथ बिक जाना
(d) प्रकृति को अपना दास बनाना

Ans. (b) : 'नियति के हाथ का खिलौना' से तात्पर्य है-प्रकृति के आगे असहाय महसूस करना। अतः विकल्प (b) सही उत्तर है।

98. आधुनिक युग में विलक्षण क्या है?

(a) जीवन के रहस्य को अनुभव करना
(b) अत्यंत सूक्ष्म और वैज्ञानिक आकलन से बने उपकरण
(c) प्रकृति से बने उपकरण
(d) अवैज्ञानिक आकलन से प्रस्तुत उपकरण

Ans. (b) : दिये गये गद्यांश के अनुसार अत्यंत सूक्ष्म और वैज्ञानिक आंकलन से बने उपकरण आधुनिक युग में सचमुच विलक्षण हैं।

99. कौन-सा शब्द मुक्ति का पर्यायवाची है?

(a) छुटकारा (b) आबाद
(c) मुकुल (d) आनंद

Ans. (a) : दिये गये विकल्पों में 'छुटकारा' शब्द 'मुक्ति' का पर्यायवाची है।
मुक्ति का अन्य पर्यायवाची शब्द है- परमधाम, निर्वाण, कैवल्य, सद्गति, अपवर्ग आदि।

100. कठिन होने के बावजूद किसे जाना जा सकता है?

(a) आधुनिक युग के विचारों को
(b) जीवन के रहस्यमय उद्देश्य को

(c) भौतिकशास्त्र के आविष्कारों को
(d) प्रकृति के प्रभुत्व को

Ans. (b) : उपर्युक्त गद्यांश के अनुसार जीवन के रहस्यमय उद्देश्य को कठिन होने के बावजूद भी जाना जा सकता है। अतः विकल्प (b) सही उत्तर है।

Post Specific Subject-Related Questions

Discipline– 1

1. One of the chemical constituents present in Van den in Bergh reagent A is
(a) Sulphanilic acid (b) Sulfanilamide
(c) Sod. Chloride (d) Sod. thiosulphate

Ans. (a) : Vanden Bergh Reagent A contain sulphanilic acid.
This is used measure bilirubin levels in blood.

2. The icterus-index is a measure that is used to identify
(a) Jaundice (b) Anaemia
(c) Diabetes (d) Gout

Ans. (a) : Icterus index measure of yellow colour of serum.
This colour is normally due to presence of bilirubin.

3. Which of the following is a plasma protein derived chemical mediator of inflammation?
(a) Globulin (b) Bradykinin
(c) Cytokine (d) Serotonin

Ans. (b) : Bradykinin is a Plasma Protein derived chemical mediator of inflammation Bradykinin is a pro-inflammatory mediator and also recognised as a neuro-mediator and regulator of several vascular and renal functions.

4. The source of salmonella generated enterocolitis is
(a) Shellfish (b) Water
(c) Cheese (d) Beef

Ans. (d) : The source of salmonella generated enterocolitis is beef
enterocolitis is a chronic relapsing and remitting, non specific inflammatory disease of the colon.

5. The epithelium composed of a single layer of flattened cell is termed as:
(a) Pavement epithelium
(b) Ciliated epithelium
(c) Cuboidal epithelium
(d) Columnar epithelium

Ans. (a) : Pavement epithelium composed of a single layer of flattened cells also known as simple squamous epithelium present in alveoli of lungs, wall of Bowman's capsule.

6. The most abundant plasma protein present in the body is
(a) Fibrinogen (b) Albumin
(c) Globulin (d) Plasminogen

Ans. (b) : Most abundant plasma protein present in body Albumin.
Albumin can be found in bloodstream, Interstitial space as well as other fluids albumin acts as carrier for many circulating molecules.

7. Sinusoids are generally found in all of the following except
(a) Liver (b) Spleen
(c) The brain (d) Bone morrow

Ans. (c) : Sinusoids are generally found in the bone marrow, spleen and liver not found in the brain sinusoids are specialized capillaries, where large spaces exist within the capillary wall to allow blood cells and proteins to be exchanged between the tissues and the blood.

8. The type of aneurysm occurring mainly in the Arch of aorta is
(a) Seculars (b) Dissecting
(c) Fusiform (d) Microaneurysm

Ans. (b) : Dissecting type of aneurysm occuring mainly in the arch of aorta.

9. The thermoregulatory centre in the brain is located in
(a) The cerebellum
(b) The medulla oblongata
(c) The cerebrum
(d) The hypothalamus

Ans. (d) : Hypothalamus is found in Brain its main function is homeostasis, temperature regulation, thirst & Hunger center also in Hypothalamus.

10. The phase of the cell cycle during which the cell may leave the cell cycle is
(a) M (b) S
(c) G0 (d) G1

Ans. (c) : G0 phase of the cycle in which cell may leave the cell cycle. This phase is also known as resting-phase, It represents the time when the cell is neither dividing nor preparing to divide.

11. The number of ATP yielded in the body from one molecule of the glucose as a result of electron transport chain is:
(a) 6 (b) 4
(c) 2 (d) 32

Ans. (d) : The oxidative phosphorylation process, also known as electron transport chain.
The electron transport cycle generate 30-32 ATP molecules.

12. The RNA virus that cause cancer in human is
(a) Hepatitis B virus
(b) Epstein Barr virus
(c) Human T cell leukaemia virus
(d) Human papilloma virus

Ans. (c) : Human T cell leukaemia virus (HTLV) can cause cancer in human. HTLV types I and II are two closely related RNA viruses, that can be transmitted through body fluids. The infact primary lymphocytes.

13. The alcohol contained in glycolipids is

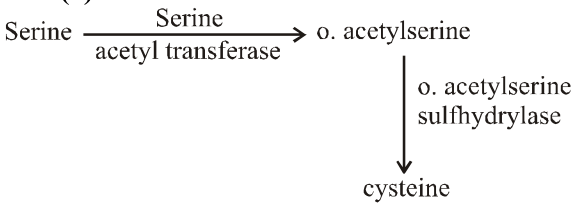
(a) Sorbitol (b) Sphingosine
(c) Maltitol (d) Glycerol

Ans. (b) : Glycolipids are a type of complex lipids that comprises sphingolipids or glycerol (an alcohol), fatty acids, and carbohydrates.

14. Catabolism of serine take place after getting converted to:

(a) Alanine (b) Tyrosine
(c) Proline (d) Cysteine

Ans. (d) :



15. Which of the following vitamin is essential in citric acid metabolism?

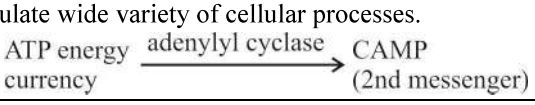
(a) Retinol (b) Thaimine
(c) Ascorbic acid (d) Cyanocobalamin

Ans. (b) : Vitamin B_1 or thiamine is essential in citric acid metabolism. Vitamin B_1 (thiamine) is an important coenzyme for two reactions in the citric acid cycle (Kreb-cycle). Thiamine helps the body's cells change carbohydrates into energy.

16. The enzyme that is responsible for the conversion of ATP to cyclic GMP is

(a) Phosphodiesterase (b) Lipoprotein lipase
(c) Adenylyl cyclase (d) Guanyl cyclase

Ans. (c) : Stimulation of adenylyl cyclase results in formation of cylic AMP which is released from the membrance into the cell and acts with in the cell to regulate wide variety of cellular processes.



17. 8-bit word can address_____memory locations.

(a) 32 (b) 138
(c) 8 (d) 256

Ans. (d) : 8-bit word can address 256 memory locations because 8 bits can only have 256 different values.

18. A set of instructions is called :

(a) an address (b) a code
(c) a programme (d) a server

Ans. (c) : A computer programme is a set of instructions (smallest unit of execution) that are used to execute particular tasks to get particular results.

19. Basic ASCII Code is a standard coding system that uses_____bits to code each character.

(a) 3 (b) 7
(c) 9 (d) 5

Ans. (b) : The term ASCII stands for American standard code for information interchange. The ASCII table has 128 characters with values from 0 to 127, thus 7 bits are sufficient to represent a character in ASCII.

20. Which of the following is a software program that is program for doctors to enter patient symptoms into the computer

(a) IPES (b) COPES
(c) COPE (d) SUMEX

Ans. (d) : Sumex is a software Programme that is used for doctors to enter Patient symptoms into the computer.

Discipline– 2

21. The number of Gram required for preparing 8 oz of 6% solution of mercuric chloride is_____(35 g in 8 oz makes 1% solution)

(a) 320 grams (b) 210 grams
(c) 175 grams (d) 144 grams

Ans. (b) : 210 grams $HgCl_2$ is required for preparing 8 oz of 6% solution.

22. Which of the following liquid preparation is applied externally to the skin and not in the cavities?

(a) Ear Drops (b) Enemas
(c) Collodions (d) Douches

Ans. (c) : Ear drops - Ear
douches - Vaginal cauity
Enema - Rectum
Collodions are liquid preparations, used as a topical (surface) or external protectives. Collodions contains nitro cellulose pyroxylin in a mixture of ethanol and ethyl ether.

23. The aromatic water used as carminative for infants in gripe water is

(a) Chloroform water (b) Camphor water
(c) Anise water (d) Dill water

Ans. (d) : The gripe water contain dill water used as carminative in infants. It contains oil of Dill herb and Sodium hydrogen carbonate $\{NaHCO_3\}$.

24. The strength of 1 in 400 is equivalent to

(a) 0.1% (b) 0.04%
(c) 0.143% (d) 0.25%

Ans. (d) : $\frac{1}{400} \times 100 = 0.25\%$

25. The paediatric dose of {(surface area of child/ surface area of adult)×100} = % of adult dose was proposed by

(a) Young (b) Catzel
(c) Dilling (d) Fried

Ans. (b) : Catzel proposed a formula for dose calculation in paediatric

$$= \frac{\text{surface area of child}}{\text{surface area of Adult}} \times 100 = \%\ \text{adult dose}$$

26. Which of the following is an example of external preparation of suspension containing indiffusible solid

(a) Phenobarbitone (b) Hydrocortisone
(c) Aspirin (d) Sulphadimidine

Ans. (b) : Hydrocortisone is a steroidal containing Indiffusible solid suspension used externally. Hydrocatisone is used for the treatment of severe allergic condition, dermatitis, allergic rhinitis, asthma etc.

27. In the Imperial weights system, 1/2 scruple represents

(a) 10 grains (b) 40 grains
(c) 60 grains (d) 20 grains

Ans. (a) : Imperial system
1 scruple = 20 gains
$\frac{1}{2}$ scruple = 10 grains

28. Which of the following is an example of ointment made by chemical reaction?

(a) Iodine ointment
(b) Ammoniated mercury ointment
(c) Calamine ointment
(d) Salicyclic acid ointment

Ans. (a) : Iodine ointment is an antiseptic used to inhibit the growth of bacteria on living cell Iodine ointment made by chemical reaction.

29. The solvent contained in dimercaprol injection is

(a) Dimethyl form amide (b) Ethyl acetate
(c) Benzyl benzoate (d) Alcohol

Ans. (c) : Dimercaprol is given in heavy metal poisioning it contains - solvent - Benzyl benzoate.

30. The synthetic fat base consisting of a mixture of tri, di and mono glyceride of saturated fatty acid are known as

(a) Witepsol (b) Massa estarinum
(c) Massuppol (d) Wecobee

Ans. (b) : Massa estarinum is a fat base consist of a mixture of di, tri and monoglycerides of fatty acid. It is a white, almost odourless and tasteless solid. It is used as emulsifying base.

31. In India, the national malaria eradication programme was launched in

(a) 1972 (b) 1947
(c) 1963 (d) 1958

Ans. (d) : National antimalaria programme was launched in April 1953. But National Malaria Eradication programme launched in 1958.

32. Cohort study is associated with which of the following method of epidemiology?

(a) Analytical epidemiology
(b) Experimental epidemiology
(c) Quantitative epidemiology
(d) Descriptive epidemiology

Ans. (a) : Analytical epidemiology focuses on understanding the determinants and origins of disease. In this kind of observation there major type of studies are used cross-sectional, case control and cohort study.

Descriptive epidemiology
Uses observational studies of the distribution of disease in term of person place and time.

Quantitative epidemiology
The goal of Quantitative epidemiology is to address a medical, health or behavioural question using no as evidence.

33. The communicable disease caused by RNA paramyxovirus is

(a) Measles (b) Tuberculosis
(c) Chicken pox (d) Diphtheria

Ans. (a) : Measles is a contagious viral infection that can be serious for small children.
It is caused by RNA paramyxovirus.

34. Sporangiospores are associate with

(a) Glomeromycetes (b) Ascomycetes
(c) Basidiomycetes (d) Phycomycetes

Ans. (d) : Sporangiospores are asexual spores associated with phycomycetes. sporangiospores are produced by the fungi of chytridio-mycetes and zygomycetes groups as well as oomycetes.

35. The schedule regarding standard of disinfectant fluid is:

(a) Schedule P (b) Schedule J
(c) Schedule O (d) Schedule R

Ans. (c) : Schedule O of drugs and pharmacy act contains regulations and standard for the disinfectant fluids.
Schedule J – list of Incurable disease
Schedule R – Physical barriers as condoms
Schedule P – Life period and storage of various drugs.

36. The schedule corresponding to proforma for application for licence, issue and renewal of licence, and for sending member and under the drug and cosmetic act is

(a) Schedule D1 (b) Schedule A
(c) Schedule E1 (d) Schedule K

Ans. (b) : Schedule A– Proforma for application for licences, issue and renewal of licences.
Schedule E_1 = contains a list of toxic or poisonous drugs with animal plant, and mineral origins that must be consumed only under medical supervision.

37. Section 9 of the National list of essential medicines is specially about

(a) Antiparkinsonism medicines
(b) Anti infective medicines
(c) Anti migraine medicines
(d) Antineoplastic medicines

Ans. (a) : Section 9 of the National list of essential medicine is contain antiparkinsonism medicines.

38. The subsequent penalty on the offence related to the manufacture, sale, distribution, stocking, exhibition, offering for sale or distribution of spurious drug but not manufactured under the name of any other Drugs is

(a) Imprisonment up to ten year or fine up to 5,000 or both
(b) Imprisonment for not less than 6 year to 10 year and fine of not less than 10000

(c) Imprisonment for 2 to 4 year or fine of not less than 5000 or both
(d) Imprisonment up to 10 year or fine up to 20000 or both

Ans. (b) : Imprisonment for not less than 6 years to 10 years and fine not less than 10000 Rs

39. Which of the following is credited to the profit and loss account?
(a) Printing and stationary
(b) Carriage outward
(c) Cash discount from creditors
(d) Advertisement

Ans. (c) : Cash discount from creditors. Cash discount is an expense for the seller and income for the buyer. It is therefore debited in the books of the seller and credited in the books of buyer.

40. Which of the following is a current asset?
(a) Inventory (b) Quorum
(c) Debenture (d) Tender

Ans. (a) : Current assets - Includes
cash and cash equivalents
Account Receivable
Prepaid expense
Raw material
Inventory

Discipline– 3

41. The accounting concept where income is measured by the amount charged for goods sold or service rendered to customer is known as
(a) The matching concept
(b) The cost concept
(c) The Entity concept
(d) The revenue realization concept

Ans. (d) : Revenues are realized when cash or claims to cash (receivable) are received. The concept is that revenues are realizable when they are readily convertible to cash or claim to cash.

42. First in first out method is a method associated with
(a) Codification of items
(b) Pricing of materials
(c) Purchase procedure
(d) Inventory control technique

Ans. (b) : First in first out (FiFo) is an inventory method that assumes the first goods purchased are the first goods sold.

43. Which of the following is used as an antioxidant for aqueous injection
(a) Thiourea (b) Thiocarbamise
(c) Thiosemicarb azide (d) Thiomersal

Ans. (a) : Thiourea is used as an antioxidant for aqueous injection.Thiourea is the antioxidant used for the purification of proteins obtained from phenol-rich plant tissues.

44. The minimum number of physician required in the pharmacy and therapeutic committee is
(a) 2 (b) 3
(c) 4 (d) 5

Ans. (b) : PTC (Pharmacy therapeutic committee) is the back bone of the hospital pharmacy.
- PTC is the group of advisory people
- PTC is composed of –
- Physician
- Pharmacist
- Hospital Administration
- Nursing staff

45. The most emulsifying agent used in parenteral is
(a) Borax (b) Lecithin
(c) Gelatin (d) Methyl cellulose

Ans. (b) : Lecithin is most common emulsitying agent used in parentral preparation. Lecithin is a collective name for a group of lipids naturally found in foods like egg yolks, liver and soyabeans. Lecithin can also be taken as a diatory supplements.

46. The term associated with the Rapid onset and progress of a disease is termed as
(a) Systemic (b) Chronic
(c) Local (d) Acute

Ans. (d) :

Beginning	Acute condition Rapid	Chronic Condition Gradual up and down
Cause	usually one	Many
Duration	Short	Indefinite
Diagnosis	Commonly accurate	often uncertain

47. The advice on a prescription 'hora somni' means
(a) Early morning (b) Once a day
(c) In the evening (d) At bed time

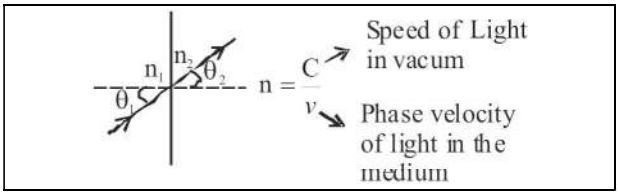
Ans. (d) : Hora somni means at the hour of sleep or at the time of bed.
Once in a day means q.d (or Q.D) it stands for quaque die.

48. Isoniazid phenytoin interaction resulting toxicity is a result of
(a) Interaction associated with distribution
(b) Interaction associated with absorption
(c) Interaction associated with excretion
(d) Interaction associated with Metabolism

Ans. (d) : Interaction associated with metabolism. Isonizid inhibits the metabolism of several drugs, as isonizid can cause increased phemytrin and carbamazapine serum concentration and toxicity.

49. The ratio of velocity of light in one medium to the velocity in a second medium is known as
(a) Molar Polarizability (b) Refractive index
(c) Molar refractivity (d) Molar polarization

Ans. (b) : Refractive index also known as refraction index or index of refraction.



50. The law related to the study of gas solubility is known as

(a) Faraday's law (b) Ohm's law
(c) Henry's law (d) Nernst's law

Ans. (c) : At constant temperature, the amount of a given gas dissolved in a given type and volume of liquid is directly proportional to the partial pressure of that gas is equilibrium with that liquid.

$p = khxc$

51. In Electrolytes, the sum of two transference numbers, t + & t- is equal to

(a) 0 (b) 2
(c) 1 (d) 3

Ans. (c) : Transferance number in electrolyte chemistry is also known as ion transport number and it is the fraction of the total electric current carried in an electrolyte by a given ionic species.
The sum of the transport numbers (transferance) of all the ions (t^+ and t^-) is always unity.

$\therefore \quad \sum_i t_i = 1$

52. Dimethyldodecylammonio propane sulfonate is example of a/an___ colloid

(a) Anionic (b) Non-ionic
(c) Cationic (d) Ampholytic

Ans. (d) : Dimethyldodecylammonio propane sulfonate is an example of ampholytic colloids.

53. In coarse dispersion, the condition when no clear supernatant is shown on standing is known as

(a) Phase equilibrium
(b) Donna membrane equilibrium
(c) Ionic equilibrium
(d) Flocculation equilibrium

Ans. (d) : The condition which no clear supernatant is shown on standing is known as flocculation equilibrium.

54. The measurement of equilibrium constant in charge transfer complex was derived by

(a) Clausius (b) Debye
(c) Benesi (d) Nernst

Ans. (c) : The measurement of equilibrium constant in charge transfer complexes was derived by - Benesi. Benesi-Hildebrand method is a mathematical approach used in the determination of the equilibrium constant K.

55. Which of the following diseases is caused by Treponema pallidum

(a) Tetanus (b) Leptospirosis
(c) Syphilis (d) Pinta

Ans. (c) : Syphilis is caused by Treponema pallidum Syphilis is sexually transmitted disease caused due to Treponema pallidum.

56. Among the surface active agent, quaternary ammonium chloride is categorized as

(a) Wetting agent
(b) Emulsifying agent
(c) Cationic agent
(d) Anionic agent

Ans. (c) : Cationic agents have a positive charge on their hydrophilic end
ex- Cetrymethylammonium bromide (quaternary ammonium surfactant)

57. The antimicrobial action of mercuric chloride is attributed to the inhibition of enzyme having ____ group.

(a) Hydroxyl (b) Sulfhydryl
(c) Amide (d) Sulfone

Ans. (b) : The antimicrobial action of meruric chloride is attributed to the inhibition of enzyme having sulfhydryl group.

58. The vitamin used by clostridium tetani as a Growth stimulator is

(a) Pyridoxine (b) Riboflavin
(c) Tocopherol (d) Niacin

Ans. (b) : Riboflavin used by clostridium tetani as a growth stimulator. Clostridium tetani is a soil bacteria, which causes tetanus in humans. It is obligate anaerobic gram positive bacillus.

59. The principal product of corrosion in dezincification is

(a) Arsenic (b) Copper
(c) Antimony (d) Phosphorus

Ans. (b) : The principal product of corrosion on dezincification is copper.

60. Crystal crystallizer works on the principle of:

(a) Super saturation by salting out
(b) Super saturation by cooling
(c) Super saturation by adiabatic
(d) Super saturation by evaporation of solvent

Ans. (d) : A supersaturated liquid concentration in evaporation chamber go down through tail pipe then is supplied to bottom of crystallization tank.

Discipline– 4

61. The IP Specification for nominal mesh aperture of 180 micrometer corresponds to

(a) Seive number 100 (b) Seive number 44
(c) Seive number 60 (d) Seive number 85

Ans. (d) :

Grade of powder	Sieve through which all particles must pass
Coarse	10
moderately coarse	22
moderately fine	44
Fine	85

62. The toxic gas obtained on decomposition of Teflon is

(a) Chlorotrifluoro ethylene
(b) Perfluoroisobutene
(c) Epoxy Propane
(d) Polyprolene

Ans. (b) : Perfluoroisobutene is a toxic gas obtained from decomposition of Teflon.

63. The approximate moisture content of the hard gelatin capsule in normal condition is

(a) 13-16% (b) 3-6%
(c) 7-10% (d) 20-25%

Ans. (a) : The approximate moisture content of a hard gelatin capsule in normal condition is 13 – 16%.

64. Which of the following is a example of inorganic two-phase systems gels?

(a) Tragacanth gel
(b) Aluminium hydroxide gel
(c) Polyethylene gel
(d) Carbopol gel

Ans. (b) : Aluminium hydroxide gel has many crystalline polymorphic phases such as
$\alpha\ Al_2O_3$, $\beta\ Al_2O_3$, $\gamma\ Al_2O_3$

65. Which of the following is an example of water soluble and water miscible suppository base

(a) Suppocire base
(b) Glycerinated gelatin
(c) Wecobee base
(d) Cocoa butter

Ans. (b) : Glycerinated gelatin water soluble or water miscible base are containing glycerinated gelatin, PEG polyethylene gly(o).

- Glycerinated gelation is a useful suppository base.

66. Which of the following is used as tablet direct compression excipient?

(a) Di Basic calcium phosphate
(b) Titanium dioxide
(c) Hydroxyl ethyl cellulose
(d) Sodium chloride

Ans. (a) : Dibasic calcium phosphate is used as a tablet direct compression excipient.

67. The T Lymphocytes involved in mediating the development of T cells are

(a) Inducer T cell (b) Cytotoxic T cell
(c) Suppressor T cell (d) Helper T cell

Ans. (a) : The T lymbhocytes involved in mediating the development of T-cell are Inducer T- cells

68. The most preferred production method of l-glutamic acid is through

(a) Chemical synthesis
(b) Extraction
(c) Intermediate production
(d) Fermentation

Ans. (d) : Fermentation is a biochemical process that gets energy from carbohydrates and does not require oxygen.

glucose → ethanol + CO_2 + Energy

69. The heavy chain corresponding to the immunoglobulin IgA is:

(a) γ (b) β
(c) α (d) μ

Ans. (c) : IgA is produced by cells in mucous membranes.

- The main function of IgA is to prevent the attachment of virus and bacteria to epithelial cells.
- It is present in first milk of mother.

70. The antisense as drug used for the treatment of cytomegalovirus infection with AIDS is

(a) Filgrastim (b) Kogenate
(c) Refludan (d) Fomivirsen

Ans. (d) : Fomivirsen used for the treatment of cytomegalovirus in patients with AIDS.

71. Which of the following is categorized as having intermediate risk potential with reference to bioequivalence study

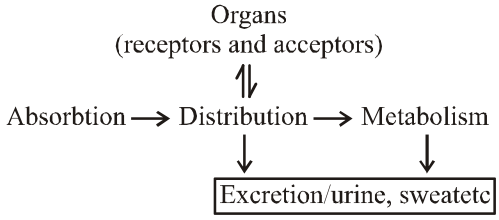
(a) Phenytion (b) Ephedrine
(c) Quinidine (d) Griseofulvin

Ans. (d) : Griseofulvin is categorised as having intermediate risk potential with reference to bioequivalence study.

72. The pharmacokinetic parameters like distribution and elimination together is called

(a) Absorption (b) Excretion
(c) Metabolism (d) Disposition

Ans. (d) : Pharmacokinetic also known as drug disposition



73. The blood protein to which vitamin B 12 bind is

(a) α 2 globulin
(b) α 2 acid glycoprotein
(c) α 1 acid glycoprotein
(d) α 1 globulin

Ans. (d) : α, 1 globulin
α, 1 globulin is a type of blood protein to bind vitamin B_{12}.

74. The specialised cell known as astrocyte are present in which of the following biological barriers in the body?

(a) Capillary endothelial barrier
(b) Cell membrane barrier
(c) Blood brain barrier
(d) Blood cerebrospinal fluid barrier

Ans. (c) : Astrocytes are the cells are related to human central nervous system (CNS). They perform metabolic, neuroprotective tasks e.g. clearing excess neurotransmittery stabilizing and regulating the blood-brain barrier, and promoting synapse formation.

75. The reagent used in the assay of oxygen is
(a) Alkaline pyrogallol solution
(b) Neutral ferric chloride
(c) Acetous perchloric acid
(d) Neutral fomaldehyde

Ans. (a) : Alkaline pyrogallol solution used in the assay of oxygen.
- Alkaline solutions of pyrogallol absorb oxygen efficiently and are used in determining the oxygen content of gas mixtures.

76. The permanent red colour obtained in the end of The titration in volhard's method is due to the formation of
(a) Ferric thiocyanate
(b) Ammonium chromate
(c) Silver chromate
(d) Ammonium thiocyanate

Ans. (a) : The permanent red colour obtained at the end of titration in volhard's method is due to the Formation of ferric thiocyanate.

77. Which of the following is used for standardization in redox titration?
(a) Calcium carbonate
(b) Ferrous Ammonium Sulphate
(c) Sulphanilic acid
(d) Potassium hydrogen phthalate

Ans. (b) : Ferrous ammonium sulphate is used for standardization in Radox titration.
Potassium hydrogen phthalate is used as a primary standard for acid base titration.
Sulphanilic acid is used for measuring conjugated bilirubin (direct bilirubin).

78. In gravimetric analysis for the determination of ash value, the acid insoluble portion of acid is determined by boiling with
(a) Ammonium hydroxide
(b) Acetic acid
(c) Dilute hydrochloric acid
(d) Sodium chloride

Ans. (c) : In gravimetric analysis for the determination of ash value, the acid insoluble portion of ash is determined by boiling with dilute HCl.

79. Which of the following drugs is assayed by complexometric titration as per pharmacopeial standards?
(a) Calcium aminosalicylate
(b) Magnesium sulphate
(c) Zinc oxide
(d) Potassium Bromide

Ans. (b) : Magnesium sulphate drugs is assayed by complexometric titrations as per pharmacopeia standards.

Discipline– 5

80. Complexone III is otherwise known as
(a) Potassium permanganate
(b) Cupric iodide
(c) Disodium edetate
(d) Ferric ferrocyanide

Ans. (c) : Complexone III is also known as disodium edetate.
- Edetate binds with calcium and some heavy metal in the body.
- It is used to treat calcium overload.

81. Which of the following is an example of azo indicator
(a) Ferroin (b) Phenol red
(c) Phenolphthalein (d) Methyl red

Ans. (d) : Methyl red is an azoindicator. Ferroin is the complex of 1, 10-phenanthroline and Fe (II) used as indicator of oxidation and also works as cotalyst for Belousov-Zhabotinsky reaction.

82. The pH of range of____ indicator is 6.8-6.4
(a) Methyl red (b) Phenol red
(c) Bromocresol green (d) Methyl Orange

Ans. (b) : Phenol red indicator is a weak organic acid, and therefore its pH ranges just below 7, i.e. in between 6.8 to 6.4. Bromo Cresol Greenn (BCG) is a dye of the triphenylmethane family. It works as indicator in growth medium for microrganisms.

83. Which of the following is a dye that produced result similar to Litmus Paper?
(a) Lawsone (b) Curcumin
(c) Morin (d) Azolitmin

Ans. (d) : Azolitmin is a dye that produces results similar to litmus paper. Azolitmin is an indicator having pH around 4.5 for red and 8.3 for blue. It is useable with most mineral, some organic acid (except hydroxy acids) and some alkaloids.

84. The indicator used in non aqueous titration of barbiturates is
(a) Thymol blue (b) Bromocresol green
(c) Crystal violet (d) Phenolphthalein

Ans. (a) : Thymol blue used in non-aqueous titration of barbiturate.

85. The buffer present in water soluble ratio of a contrast media is:
(a) Tartrate buffer (b) Acetate buffer
(c) Citrate buffer (d) Sulphate buffer

Ans. (c) : Citrate buffer Present in water soluble radio opaque contrast media.
Radio opaque contrast media is high density pharmacologic agents used to visualize low contrast tissues in the body.

86. The inorganic compound used as an emetic is
(a) Copper sulphate (b) Ferric chloride
(c) Iodine (d) Sodium iodide

Ans. (a) : Copper sulphate is inorganic agent used in stimulate the vomiting/emetic.

87. Nitrous oxide should be stored in metal cylinder with temperature not exceeding
(a) 36 C° (b) 26 C°
(c) 45 C° (d) 10 C°

Ans. (a) :
- Nitrous oxide should store in metal cylinders with 36°C temperature.
- When exceeding than 36°C then the chance of cumbustion.

88. The most abundant extracellular ions in the body is
(a) K+ (b) Na+
(c) Ng+ (d) Ca2+

Ans. (b) :
Physiological Electrolytes/Ions

Major extracellular	Major Intracellular
Na^+ (Sodium)	K+
Cl^- (Chloride)	Po_4^{2-}
HCO_3^- Bicarbonate	Mg^{--}

89. Clonidine structurally is an___ derivative
(a) Pyrazoline (b) Pyrimidine
(c) Triazine (d) Imidazoline

Ans. (d) : Clonidine structurally is an imidazoline derivative. It belongs to the class of medicines called anti hypertensive. It works alone or in combination with other medications to treat high blood pressure.

90. Which of the following cholesterol- lowering agent is naphthalenyl ester derivative?
(a) Lovastatin (b) Clofibrate
(c) Colestipol (d) Gemfibrozil

Ans. (a) : Lovastatin is a Naphthalenyl ester derivative lower the cholestrol level.

91. The antibiotic having mechanism of action attributed to muco peptide synthesis inhibition is
(a) Chloramphenicol
(b) Cycloserine
(c) Bacitracin
(d) Penicillin

Ans. (c) : Bacitracin having mechanism of action attributed to mucopeptide synthesis inhibition.

92. Dioscin is an example of
(a) Mucilage (b) Triterpenoid
(c) Alkaloidal resin (d) Steroid saponin

Ans. (d) : Dioscin is one of the most widely found steroid saponins in plants and it exhibits antitumor, antiviral, antifungal, anti-inflammatory properties.

93. Aleurone grains present in seed are a type of
(a) Transport proteins
(b) Storage proteins
(c) Contractile protein
(d) Defensive protein

Ans. (b) : aleurone layer is the outermost layer of the endosperm that storage the protein.

94. The pungency of Ginger is due to the presence of which of the following formal August phenols
(a) Citral (b) Borneol
(c) Gingerol (d) Cineole

Ans. (c) : Gingerol is the main chemical constituent of ginger due to presence of gingerol pungency of ginger occurs.

95. Which of the following is an oleo-gum obtained from the stem of Commiphora?
(a) Asafetida (b) Myrrh
(c) Ginger (d) Camphor

Ans. (b) : Myrrh is an oleo-gum resin obtained from the stem of Commiphora.

96. Which of the following is not an organoleptics factor for the standardization of herbal drugs
(a) Odour (b) Colour
(c) Taste (d) Moisture content

Ans. (d) : Moisture content organoleptic refers to evaluation by means of the organs of sense and includes the macroscopic appearance of the drug, its odour and taste.

97. Which of the following traditional medicine is semi solid dosage form?
(a) Vatika (b) Satva
(c) Asava (d) Avaleha

Ans. (d) : Asava – liquid dosage form
Vatika – Solid dosage form
Avaleha – Semisolid dosage form

98. The prominent nutraceutical used for allergy relief is/are
(a) Green tea
(b) Momordica
(c) Flax seeds
(d) Ginko biloba

Ans. (d) : Ginkgo biloba is a nutraceutical used in allergy relief. Momordica is tropical vine of the family cucurbitaceae. It has been traditionally used to treat diabetes.

99. An unpleasant ammonical odour is generated in which of the following drug during storage due to humidity?
(a) Saffron (b) Ergot
(c) Cinnamon (d) Rhubarb

Ans. (b) : Ergot reacts with humidity and produces unpleasant ammonical odour. Rhubarb is a useful medicinal plant. Its most of the parts i.e. roots, stem etc are used to make medicines as for digestive disorder, constipation, diarrhea and heartburn etc.

100. Which of the following is the brilliant red dye obtained from insects?
(a) Carajurin (b) Ocher
(c) Cochineal (d) Indigo

Ans. (c) :
- Cochineal is brilliant red dye obtained from insects.
- Ochre - colour is due to the iron oxide ochre is amineral is a mix of clay; iron oxide manganese dioxide etc.
- Indigo - is Natural obtained from indigofera tinctoria.

DELHI SUBORDINATE SERVICES SELECTION BOARD RECURITMENT

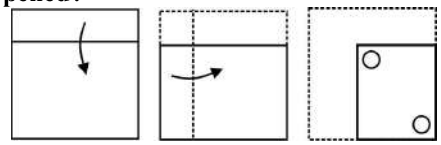
EXAM DATE-04-11-2019

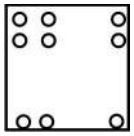
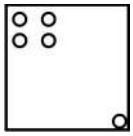
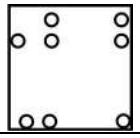
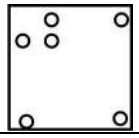
Mental Ability

1. In the following question, correct the equation by interchanging two signs.
24 + 6 ÷ 3 × 11 – 12 = 14
(a) ÷ and + (b) ÷ and ×
(c) – and × (d) – and +

Ans. (d) : 24 + 6 ÷ 3 × 11 – 12 = 14
from option (d),
24 – 6 ÷ 3 × 11 + 12 = 14
24 – 2 × 11 + 12 = 14
24 – 22 + 12 = 14
36 – 22 = 14
14 = 14
L.H.S. = R.H.S.

2. If a square sheet of paper is folder two times from the centre and cuts are made as shown in the question figure how will it appear when it is opened?



(a)  (b) 
(c)  (d) 

Ans. (b) : According to the question, option (b) will be correct.

3. If 5 @ 6 = 1331 and 3 @ 4 = 343, then 4 @ 5 =
(a) 729 (b) 512
(c) 2197 (d) 1000

Ans. (a) : Just as,
5 @ 6 = 1331 and 3 @ 4 = 343
$(5 + 6) = (11)^3$ $3 + 4 = (7)^3$
$= 1331$ $= 343$
Same as,
4 @ 5 = 729
$= 4 + 5 = (9)^3$
$= 729$

4. If 'STAGE' is coded as 'TUBHF', 'STRANGER' will be coded as _____.
(a) TUBSOHFS (b) TUSOBHFS
(c) TUBOFSHS (d) TUSBOHFS

Ans. (d) : Just as,
S $\xrightarrow{+1}$ T
T $\xrightarrow{+1}$ U
A $\xrightarrow{+1}$ B
G $\xrightarrow{+1}$ H
E $\xrightarrow{+1}$ F

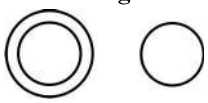
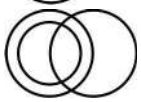
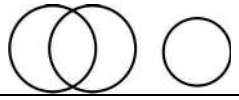
Same as,
S $\xrightarrow{+1}$ T
T $\xrightarrow{+1}$ U
R $\xrightarrow{+1}$ S
A $\xrightarrow{+1}$ B
N $\xrightarrow{+1}$ O
G $\xrightarrow{+1}$ H
E $\xrightarrow{+1}$ F
R $\xrightarrow{+1}$ S

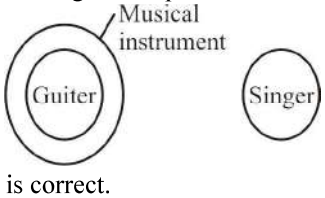
Hence option (d) is correct.

5. There are five houses ABCDO in a row. A is right side of B and left side of C, O is the right side of A, B is right of D. Which house is in the middle?
(a) B (b) A
(c) D (d) O

Ans. (b) : According to the question–
D B A C O
Hence, the house 'A' is in the middle.

6. Which one of the following figures represents the relationship among Musical instrument, guitar and Singer?

(a) 
(b) 
(c) 
(d) 

Ans. (a) : According to the question–


So, option 'a' is correct.

7. The statements below are followed by two conclusions labeled I and II. Assuming that the information in the statement is true, even if it appears to be at variance with generally

established facts, decide which conclusion(s) logically and definitely follow (s) from the information given in the statements.

Statements :

Some tents are houses.

All houses are buildings.

Some buildings are huts.

Conclusions :

I. Some huts are houses

II. Some buildings are huts.

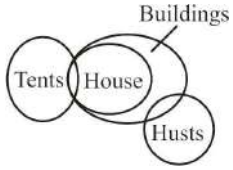
(a) Only conclusion I follows

(b) Either conclusion I or II follows

(c) Neither conclusion I nor II follows

(d) Only conclusion II flows

Ans. (d) : According to the question- The venn diagram is–



So, only conclusion II follows.

8. In the following question, select the related number from the given alternatives.

649 : 361 :: 768 : ?

(a) 441 (b) 283

(c) 336 (d) 416

Ans. (a) : Just as, Same as

649 : 361 768 : 441

$6 + 4 + 9 = (19)^2$ $7 + 6 + 8 = (21)^2$

$= 361$ $= 441$

Hence (?) = 441

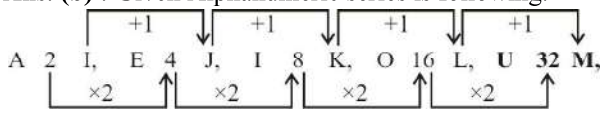
9. Solve the alphanumeric series given below:

A2I, E4J, I8K, O16L, ?

(a) U32L (b) U32M

(c) U16N (d) U18N

Ans. (b) : Given Alphanumeric series is following.



Hence (?) = U32M

Note : A, E, I, O, U are vowels.

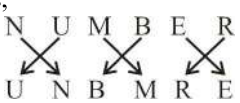
10. In the following question, select the related group of letters from the given alternatives.

NUMBER : UNBMRE :: GHOST : ?

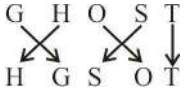
(a) HOGTS (b) HGOST

(c) OGTST (d) HGSOT

Ans. (d) : Just as,

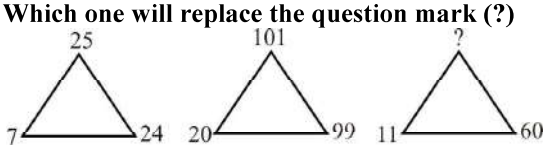


Same as,



So (?) = HGSOT

11. Which one will replace the question mark (?)



(a) 61 (b) 44

(c) 75 (d) 93

Ans. (a) : Just as, and

$(7)^2 + (24)^2 = (25)^2$ $(20)^2 + (99)^2 = (101)^2$

$49 + 576 = 625$ $400 + 9801 = 10201$

$625 = 625$ $10201 = 10201$

Same as,

$(11)^2 + (60)^2 = (?)^2$

$121 + 3600 = (?)^2$

$3721 = (?)^2$

$\sqrt{3721} = ?$

$? = 61$

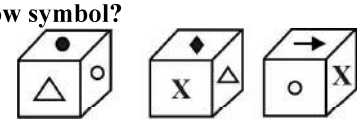
12. Find the odd one out from the given alternatives.

(a) August (b) June

(c) September (d) April

Ans. (a) : In given question 'August' is odd because August is month of 31 days.

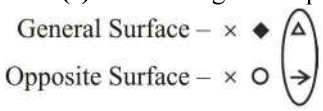
13. Three position of a same dice are shown below. Find which symbol will come opposite to the arrow symbol?



(a) O (b) ♦

(c) Δ (d) **X**

Ans. (c) : According to the question dice II & III taken–



Hence option 'c' is correct.

14. 'If 'navy' is a called 'tree', 'tree' is called 'flag', 'flag' is called 'oil', 'oil' is called 'hair', 'hair' is called 'yellow' and 'yellow' is called 'pink', then what is colour of 'turmeric',

(a) White (b) Cannot be determined

(c) Pink (d) Yellow

Ans. (c) : According to the question yellow is called pink and we know the real colour of turmeric is yellow. So the colour of turmeric will be pink.

15. Choose the appropriate combination of signs to solve the following expression.

16*8*1*8

(a) ÷ – = (b) = – ÷

(c) – ÷ = (d) ÷ = –

Ans. (c) : Given–

16 * 8 * 1 * 8

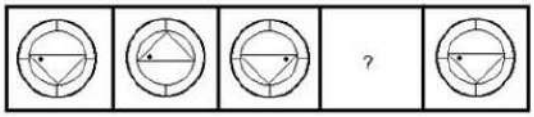
form option (c)

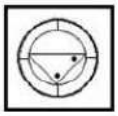
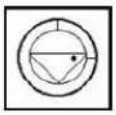
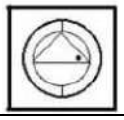
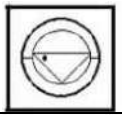
16 – 8 ÷ 1 = 8

8 = 8

LHS = RHS

16. Find the missing figure in the series from the given answer figures.
Question figures :



(a) 
(b) 
(c) 
(d) 

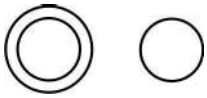
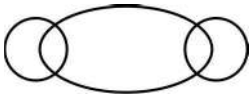
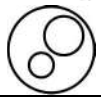
Ans. (c) : In the given figure series the answer figure (c) will come at the place of question mark.

17. In the following question, select the missing number from the given series.
7, 21, 42, 63, 84, ?
(a) 126 (b) 588
(c) 105 (d) 168

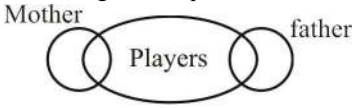
Ans. (c) : Series is given –

7	21	42	63	84	105
↓	↓	↓	↓	↓	↓
7×1	7×3	7×6	7×9	7×12	7×15

Hence ? = 105

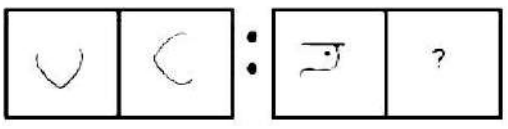
18. Players, father and mother can be represented by:
(a) 
(b) 
(c) 
(d) 

Ans. (c) : According to the question-



Hence option (b) is correct.

19. In the given question, the first and second figure of the question figures has certain relation between them and same relation exists between the third figure and the missing figure. Find the figure–



(a) 
(b) 
(c) 
(d) 

Ans. (c) : According to the question option (c) will be correct, because just as, first figure moves 90° clockwise and find 2nd figure in the same way 3rd figure moves 90° clockwise and find missing figure.

20. In the following question, select the odd letters from the given alternatives.
(a) NHGE (b) JEDB
(c) TJIG (d) XLKI

Ans. (a) : From options –

(a) 14 8 7 5 — N H G E — -6 -2
(b) 10 5 4 2 — J E D B — ÷2 -2
(c) 20 10 9 2 — T J I G — ÷2 -2
(d) 24 12 11 9 — X L K I — ÷2 -2

Hence, option (a) is odd letters.

General Awareness

21. Where were the winter paralympics games 2018 held?
(a) Sochi (b) Pyeongchang
(c) Nagano (d) Vancouver

Ans. (b) : Winter Paralympics games 2018 here held in Pyeongchang, south korea. Competitors (Nations) participated in entire 15 discipline of the games.
India was represented by two athletes-Jagdish singh and shiva keshavan.

22. In which state of India the 'Chitra-Vichitra' fair is held?
(a) Madhya Pradesh (b) Tripura
(c) Maharashtra (d) Gujarat

Ans. (d) : 'Chitra-Vichitra' fair is held in Gujarat. It is the biggest tribal festival in Gujrat. Every year the fair is celebrated in the month of march, fortnight after Holi, in khed Brahma Taluka of Sabarkantha district. The main temple is situated on a picturesque site called Triveni sangam, the sacred confluence of the three rivers sabarmati, Akul and Vyakul, amid the foothils of Aravalis.

23. Who made an aggressive argument that Hindi should be used as the Language of Constitution making ?
(a) N.G. Ranga (b) Somnath Lahiri
(c) B. Pocker Bahadur (d) R.V. Dhulekar

Ans. (d) : An enthusiastic supporter of Hindi, R.V. Dhulekar strongly advocated that Hindi in devanagari script he used to frame the constitution and he was of the view that People who do not know Hindustani (Hindi) have no right to stay in India. He wanted the Hindi to be recognised as official language of the India.

24. Which article of Indian constitution is about establishment and constitution of Supreme Court?

(a) Article 134 (b) Article 112
(c) Article 124 (d) Article 128

Ans. (c) : Article 124 deals with the establishment and Constitution of supreme court. It states that there shall be a supreme court of India consisting of a chief justice of India and until parliament by law prescribes a larger number of not more than seven other Judges.

25. The intervention of the government whether to expand demand or reduce it constitutes the _____.

(a) Stabilization function
(b) Balanced budget
(c) Redistribution function
(d) Non-plan Revenue Expenditure

Ans. (a) : The intervention of the government whether to expand demand or reduce it constitutes the stablization function. The government Intervention in the economy to expand or reduce demand is called a stablization policy.

26. In which of the following do Methanogens play an important role?

(a) In sewage treatments
(b) Production of Biogas
(c) As Bio-control agents
(d) As Antibiotics

Ans. (b) : Methanogens are the bacteria found in cattle dung and in anaerobic sladge during sewage treatment. they grow an aerobically on celluloric material and Produce a large amount of methane (Main constituent of bio gas) along with Co_2 and H_2. Thus methanogens are used in Biogas production.

27. Where is the cheque number written on a bank cheque?

(a) Top right (b) Top left
(c) Bottom left (d) Bottom right

Ans. (c) : Every cheque leaf has a six-digit cheque number written at the bottom left-hand side of the cheque. The cheque number is used to find the status of cheque.

28. The Law making process of the Indian Constitution has been taken from the constitution of which country ?

(a) Constitution of United States
(b) Constitution of Canada
(c) Constitution of Ireland
(d) Constitution of British

Ans. (d) : Law making process in the Indian constitution, has been taken from British constitution. Parliamentary government, Rule of law, legislative procedure, single citizenship, cabinet system, prerogative writs, Bicameralism etc have also been borrowed from constitution of Britain.

29. The middle layer in soil profile is known as___.

(a) A-horizon (b) Bedrock
(c) C-horizon (d) B-horizon

Ans. (d) : The middle layer in soil profile is known as The B-horizon or subsoil. It contains less humus, soluble minerals and organic matter. It is a site of deposition of certain minerals and metal, salts rush as Iron oxide. This layer holds more water than the top soil and is lighter brown due to the presence of clay soil.

30. What is the near point for a young adult with normal vision?

(a) 25 cm (b) 30 cm
(c) 10 cm (d) 15 cm

Ans. (a) : For a young adult with normal vision, the near point is about 25 cm. A normal eye can see objects clearly that are between 25 cm and infinity.

31. In which year the government of India passed Wildlife (Protection) Act?

(a) 1961 (b) 1981
(c) 1972 (d) 1998

Ans. (c) : The government of india had passed wildlife (Protection) Act in September 1972. its objective was to protect poaching or hunting of animals and conservation of plant species. It was a legal framework for protection of flora and fauna and various other parts of wildlife.

32. Shankara, one of the most influential philosophers of India was born in which of the following Indian State?

(a) West Bengal (b) Andhra Pradesh
(c) Tamil Nadu (d) Kerala

Ans. (d) : Shankara or Adishankara was an indian vedic scholar and teacher of Advaita vedanta. He was believed to have taken birth in 8^{th} century (AD) in kerala. He established four mathas has in the four corners of India for upholding sanatan dharma, namely sringeri (karnatka), Jyotir math (Uttarakhand), Dwarka (Gujrat) and puri (odisha).

33. Yampuri is traditional puppet show of which of the following Indian State?

(a) West Bengal (b) Bihar
(c) Karnataka (d) Rajasthan

Ans. (b) : Yampuri is a traditional puppet show of Bihar. It is a kind of traditional Rod puppet of Bihar. These puppets are made of wood. These puppets are in one complete piece. it does not have any joints.

34. Khurram was son of which of the following Mughal emperor?

(a) Humayun (b) Akbar
(c) Jahangir (d) Babar

Ans. (c) : Khurram, also known as shahjahan was third son of the mughal emperor Jahangir. Khurram became fifth mughal emperor from 1628 to 1658. His reign is known as golden age of mughal architecture.

35. Who laid the foundation of Qutub Minar ?

(a) Razia Sultan (b) Aramshah
(c) Qutub-ud-din Aibak (d) Genghis Khan

Ans. (c) : Qutub-ud-Din Aibak laid the foundation of Qutub-minar in AD 1199 for the use of Mu'azzin to give calls for prayer and raised the first story, to which were added three more storeys by his successor and son-in-law, shamshud-Din Iltutamish (AD 1211-36).

36. Which of the following terms describes the shape of the Earth ?

(a) Trapezium (b) Geoid
(c) Torus (d) Tall

Ans. (b) : 'Geoid' term describes the shape of the earth. Geoid shape is not perfectly spherical. The resulting shape of the earth is due to the centrifugal force of its rotation. The earth experiences the greatest centrifugal forces at the equator and least at the poles at the equator and least at the poles, therefore it bulges out at the equator giving the resultant oblate ellipsoid shape.

37. Who is the writer of the book 'Shades of Truth'?

(a) Shashi Tharoor (b) Naseeruddin Shah
(c) Kapil Sibal (d) Ratan Tata

Ans. (c) : The book "shades of truth?" Has been written by kapil Sibal.

38. Which of the following award is the highest honour of Asia ?

(a) Noble Prize
(b) Dada Saheb Phalke Award
(c) Ramon Magsaysay Award
(d) International Gandhi Peace Prize

Ans. (c) : The Ramon Magsaysay award is Asia's highest award. The foundation gives the prize to Asian Individuals achieving excellence in their respective fields. The award carries a certificate A medallion, and a cash prize of USD 50,000.

39. Who among the following is associated with Shooting?

(a) Mihir Sen
(b) Vikas Krishna Yadav
(c) Rajyavardhan Singh Rathore
(d) Mahesh Bhupathi

Ans. (c) : Rajyvardhan singh rathore is associated with shooting. He is an Indian Rifle shooter who won his country's first individual olympic silver medal in Athens olympic games is 2004.

40. In which year Sati practice was banned?

(a) 1838 (b) 1779
(c) 1819 (d) 1829

Ans. (d) : Sati Practice was banned in 1829. Lord William Bentinck, after becoming governer general of India Passed the law banning practice of sati throughout company's jurisdiction in british india. He made efforts to suppress many prevalent social evils like sati, polygamy, child marriage and female infanticide.

Arithmetic Ability

41. The fractions $\frac{1}{3}, \frac{4}{7}$ and $\frac{2}{5}$ written in ascending order given by :

(a) $\frac{2}{5} < \frac{4}{7} < \frac{1}{3}$ (b) $\frac{4}{7} < \frac{1}{3} < \frac{2}{5}$
(c) $\frac{1}{3} < \frac{4}{7} < \frac{2}{5}$ (d) $\frac{1}{3} < \frac{2}{5} < \frac{4}{7}$

Ans. (d) : Assending order of given fraction–

$\frac{1}{3} = 0.33$

$\frac{4}{7} = 0.57$

$\frac{2}{5} = 0.4$

Hence, $\frac{1}{3} < \frac{2}{5} < \frac{4}{7}$

42. A basketball team played 120 matches in a year & won 62½% of the matches. Next year it wins some matches continuously. It wins % change to 90%. Find the number of matches team won continuously.

(a) 320 (b) 750
(c) 330 (d) 350

Ans. (c) : According to the question–

62.5% of 120

$\frac{62.5}{100} \times 120 = 75$ matches

Let the team won x matches continuously then,

$\frac{75 + x}{120 + x} = \frac{9}{10}$ $\left[\because 90\% = \frac{9}{10}\right]$

$750 + 10x = 1080 + 9x$

$10x - 9x = 1080 - 750$

$x = 330$

43. Study the table carefully to answer the question that follows.

Number of trees planted by two different NGO's in three different years in two different states.

NGO	P		T	
Year	State A	State B	State A	State B
2006	2160	540	720	470
2007	1350	880	740	820
2008	1240	960	560	420

What was the respective ratio between the number of trees planted by NGO-'P' in the year 2006 in state-A and the number of trees planted by NGO-T in the year 2008 in state-B?

(a) 36 : 7 (b) 36 : 11
(c) 11 : 7 (d) 14 : 9

Ans. (a) : According to the question–

NGO(P) : NGO(T)

State(A) 2006 : State (B) 2008

2160 : 420

36 : 7

44. Find the value of $(9^3 \times 5^3)^2 \div (15^2 \times 3^2)^3$

(a) 4 (b) 2
(c) 3 (d) 1

Ans. (d) : Here is given –

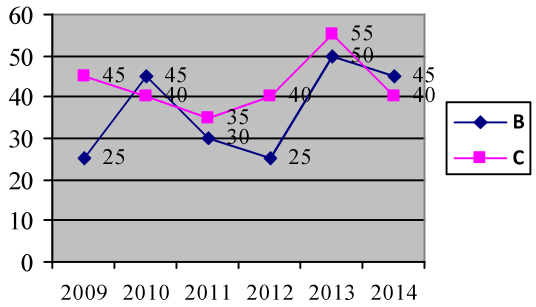
$$\frac{\left(9^3 \times 5^3\right)^2}{\left(15^2 \times 3^2\right)^3} = \frac{(45)^6}{(45)^6} = 1$$

45. **7 kg of pulse costing ₹ 280 per kg is mixed with 9 kg of pulse costing ₹ 240 per kg. The average price per kg of the mixed pulse is :**

(a) ₹ 267.50 (b) ₹ 258.50
(c) ₹ 267.20 (d) ₹ 257.50

Ans. (d) : Total cost of 7 kg pulse = 7 × 280
= ₹1960
and cost of 9 kg pulse = 9 × 240
= ₹2160
Then average price $= \frac{1960+2160}{16}$
$= \frac{4120}{16}$
= ₹ 257.5

46. **Study the following graph carefully to answer the question. Production (in thousands) by two company over the years.**



What is the respective ratio of total production by B in the years 2012 and 2014 together to the total production by C in those two years together?

(a) 6 : 7 (b) 5 : 7
(c) 14 : 15 (d) 7 : 8

Ans. (d) : According to the question–
B : C
(25 + 45) : (40 + 40)
70 : 80
7 : 8

47. **A is five times of B. The percent that B is less than A is –**

(a) $83\frac{1}{3}$ Percent (b) 75 Percent
(c) 80 Percent (d) 85 Percent

Ans. (c) :

A : B
5 : 1
~
4

% That B is less than A $= \frac{4}{5} \times 100$
= 80%

48. **In a swimming pool measuring 90 m × 40 m, 150 men take a dip. If the average displacement of water by a man is 8 cubic meters, what will be rise in water level?**

(a) 33.33 cm (b) 30 cm
(c) 50 cm (d) 16.66 cm

Ans. (a) : Average displacement by 1 man = $8m^3$
by 150 men = $(150 \times 8)m^3$
Volume rising in swimming pool = Avg. displacement by 150 men
$l \times b \times h = 8 \times 150$ m
$90 \times 40 \times h = 8 \times 150$ m
$h = \frac{2\times15}{90}$
$h = \frac{1}{3}$ m or 33.33 cm

49. **A circular aluminium wire of radius 28 cm is bent to form a square, find out the ratio of areas of the square to that of the circle :**

(a) 21 : 28 (b) 11 : 14
(c) 20 : 21 (d) 14 : 15

Ans. (b) : According to the question–
$2\pi r = 4a$
$2 \times \frac{22}{7} \times r = 4a$
$11r = 7a$
$\frac{r}{a} = \frac{7}{11}$
Then the ration of area of square and circle
$a^2 : \pi r^2$
$(11)^2 : \frac{22}{7} \times 7 \times 7$
121 : 154
11 : 14

50. **A Bus covered a distance of 780 km in 12 hours. What distance would a car cover in 11 hours travelling at a speed which is 7 kmph more than that of the Bus?**

(a) 650 km (b) 735 km
(c) 792 km (d) 782 km

Ans. (c) : The speed of Bus $= \frac{780}{12}$
= 65 kmh
according to the question, when the speed of car is more than 7 kmh than that of Bus then speed of car
= 65 + 7 = 72 kmh
Distance = Speed × time
Distance = 72 × 11
= 792 km

51. **The price of wheat has increased by 60 percent. In order to restore the original price, the new price must be reduced by :**

(a) 40 Percent (b) 45 Percent
(c) $33\frac{1}{3}$ Percent (d) $37\frac{1}{2}$ Percent

Ans. (d) : According to the question–
% loss $= \frac{100\times loss}{100+loss}$
$= \frac{100\times60}{100+60}$
= 37.5%

52. A sum becomes ₹ 45,000 after two years and ₹ 67,500 after four years at the same compound interest. The sum is :

(a) ₹ 32,500 (b) ₹ 33,000
(c) ₹ 45,000 (d) ₹ 30,000

Ans. (d) : According to the question–
Let the sum is ₹x

$$x \xrightarrow{2\text{yrs}} 45000 \xrightarrow{4\text{yrs}} 67500$$

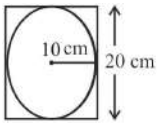
$$\frac{x}{45000} = \frac{45000}{67500}$$

x = ₹ 30000

53. A cube whose edge is 20 cm long has circle on each of its faces painted black. What is the total area of the unpainted surface of the cube if the circles are of the largest area possible?

(a) 480 sq.cm. (b) 531.33 sq.cm.
(c) 514.28 sq.cm. (d) 457.14 sq.cm.

Ans. (c) :



A cube has 6 faces
total circle = 6
Radius of each circle = 10 cm
Required area = TSA cube – area of 6 black circle

$= 6a^2 - 6(\pi r^2)$

$= 6[20 \times 20 - \frac{22}{7} \times 10 \times 10]$

$= 6[400 - \frac{314}{100} \times 10 \times 10]$

$= 6[400 - 314]$

$= 6 \times 86$

$= 516 \approx 514.28 \text{ cm}^3$

54. Working 5 hours a day, A can complete a piece of work in 8 days and working 6 hours a day, B can complete the same work in 10 days. Working 8 hours a day, they both can complete the work in :

(a) 4.5 days (b) 5 days
(c) 3 days (d) 4 days

Ans. (c) : According to the question–

$A \longrightarrow 8 \times 5 = 40 \text{ h}$ (3)
$B \longrightarrow 10 \times 6 = 60 \text{ h}$ (2) $\Big\rangle 120$

Total work = efficiency × Day
120 = 5 × Day

$\text{Day} = \frac{120}{5}$

Day = 24 days
Working both 8 hours they will complete the work in

$= \frac{24}{8} = 3$ days

55. An article was sold at 16 Percent gain. Had it been sold for ₹ 200 more, the gain would have been 20 Percent. Then the cost price of the article is :

(a) ₹ 4800 (b) ₹ 5000
(c) ₹ 4500 (d) ₹ 5200

Ans. (b) : Let the cost price = 100%
According to the question –

$20\% - 16\% = 200$

$100\% = \frac{200 \times 100\%}{4\%} = ₹ 5000$

56. While finding the average of 10 given numbers, a student by mistake wrote 62 in place of a number 26 and got his average 50. The correct average of the given numbers is :

(a) 46.4 (b) 49.3
(c) 49.1 (d) 48.5

Ans. (a) : Average

$= \text{given average} - \left[\frac{\text{Right value} \sim \text{Wrong value}}{\text{Total No}}\right]$

$= 50 - \left[\frac{62 - 26}{10}\right]$

$= 50 - \left[\frac{36}{10}\right]$

$= 50 - 3.6$

$= 46.4$

57. If 2/3rd of A is 4/5th of B, then A : B = ?

(a) 6 : 5 (b) 7 : 8
(c) 10 : 9 (d) 12 : 11

Ans. (a) : According to the question–

$A \times \frac{2}{3} = B \times \frac{4}{5}$

5A = 6B

$\frac{A}{B} = \frac{6}{5}$

58. If $P = 2^3 \times 3^{10} \times 5; Q = 2^5 \times 3 \times 7$ then HCF of P and Q is :

(a) 24 (b) 210
(c) 120 (d) 48

Ans. (a) : Given–

$P = 2^3 \times 3^{10} \times 5$
$Q = 2^5 \times 3 \times 7$
HCF of P & Q $= 2^3 \times 3$
$= 8 \times 3$
$= 24$

59. A and B can do a piece of work in 10 days and 25 days, respectively. If A and B work together for 4 days, how much work will be left?

(a) $\frac{1}{2}$ (b) $\frac{11}{25}$
(c) $\frac{22}{75}$ (d) $\frac{14}{25}$

Ans. (b) : According to the question–

The four days work of 'A' & 'B' $= \frac{4}{10} + \frac{4}{25}$

$$= \frac{2}{5} + \frac{4}{25} = \frac{10+4}{25}$$

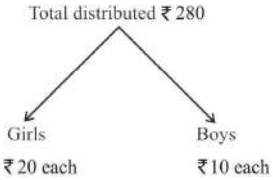
$$= \frac{14}{25}$$

then, left work $= 1 - \frac{14}{25} = \frac{11}{25}$

60. My father distributed ₹ 280 in such a way that each girl received ₹ 20 and each boy ₹ 10. If the number of boys is less than 2 that of girls. The number of girls is –

(a) 15 (b) 10
(c) 8 (d) 7

Ans. (b) :



Let the no. of Girls = x
and no of boys = (x – 2)
according to the question–
10(x – 2) + 20x = 280
10x – 20 + 20x = 280
30x = 300
x = 10
Hence, the no of girls (x) = 10

General English

61. Choose a word that can be replaced for the given sentence.
A place where government or public records are kept.

(a) Archive (b) Arsenal
(c) Cloak room (d) Dormitory

Ans. (a) : The given sentence 'A place where government or public records are kept' can be replaced by option (a) Archive-(A collection of documents or records).
Meaning of other options are-
Arsenal – A collection of weapons and military equipments.
Cloak room – A room where personal things are kept
Dormitory – A large bedroom in a school

62. Out of the given four words only one is spelt correctly. Find the word that is correctly spelt.

(a) Admiration (b) Apriciation
(c) Acknoledge (d) Assential

Ans. (a) : Option (a) admiration - (Respect and warm approval) is correctly spelt.
Correct spelling of other options are-
Appreciation- Recognition of good qualities of someone.
Essential - Absolutely necessary.
Acknowledge- Accept the existence of something.

63. Out of the given options which best expresses the meaning of the given proverb?
'Make hay while the sun shines'.

(a) If you have an opportunity, you need not worry for future.
(b) If you have an opportunity to do something, do it before the opportunity expires.
(c) Finish all the agricultural work during day time
(d) It is only the lucky people who get good opportunities

Ans. (b) : The meaning of the given proverb, make hay while the sun shines- (Make the most of a favorable situation while it lasts) is expressed by option (b) if you have an opportunity to do something, do it before the opportunity expires. Rest of the options give incoherent meaning.

64. Read each part of the given sentence to find out whether there is any grammatical error in it. The error, if any will be in one part of the sentence. The letter of that part is the answer. If there is no error, the answer is 'D'.

(a) but there is no reply
(b) No error
(c) We thought they would have got home by five o'clock,
(d) When we phoned.

Ans. (a) : The error is present in option (a) but there is no reply. Here, but there was no reply will be appropriate to be used to make the sentence grammatically correct.
Correct Sentence – We thought they would have got home by five o'clock but there <u>was</u> no reply when we phoned.

65. A sentence with an underlined word is given below. Find the word which is most similar in meaning to the underlined word.
I was hoping she might show a little <u>compassion</u>.

(a) pity (b) need
(c) hatred (d) anger

Ans. (a) : The meaning of underlined word, Compassion-(Pity and concern for suffering of the others) is expressed by option (a) pity-(A feeling of sadness for somebody else sufferings). Hence option (a) is correct.

66. In the given question, a part of the sentence is printed in bold. Choose the correct alternative.
Jesus Christ were said to have perform miracles like turning water into wine.

(a) is said to have perform miracles
(b) No improvement
(c) was said to have perform miracles
(d) was said to have performed miracles

Ans. (d) : In the aforementioned sentence, 'were said to have perform miracles', need to be replaced with 'was said to have performed miracles'. Because with singular subject, singular verb (was) is used and with have, third form (v_3) of the verb is used.
Correct sentence
Jesus Christ <u>was said to have performed miracles</u> like turning water into wine.