

MAT MOCK TEST SOLUTION

Quantitative Techniques

$$1. (a) : \frac{\frac{47}{11} - \frac{17}{12} + \frac{11}{3} + \frac{63}{17} \times \frac{116}{25}}{\frac{78 \times 11}{11 \times 3}}$$

$$\frac{\frac{564}{36} - \frac{187}{36} + \frac{7308}{425}}{26} = 1.93$$

$$2. (c) : \text{Income of Q} = \frac{75}{100}R$$

$$\text{Income of P} = \frac{120}{100}Q = \frac{6}{5} \times \frac{3}{4} \times R$$

$$= \frac{9}{10}R = 0.1R = 10\% R$$

P income is 10% less than R.

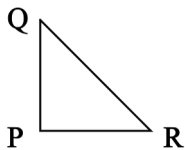
$$3. (b) : \frac{a^5 - 1 + a^4 + 2a^3 + a^2 - a^3 - 2a^2 - a}{a - 1}$$

$$= (a^3 - 1)(a^2 + a + 1)(a - 1)$$

$$\sqrt{\frac{(a-1)(a^2+a+1)(a^2+a+1)}{(a-1)}}$$

$$4. (d) : \text{The SP of 1st instrument is} = \frac{95}{100} \times \frac{9}{10} \times \frac{4}{5} \times 1500 = 1026$$

5. (a) :



$$QR = 2 PQ$$

$$\frac{1}{2} = \frac{PQ}{QR}$$

$$\sin \theta = \frac{P}{H} = \frac{PQ}{QR}$$

$$\sin \theta = \frac{1}{2}$$

$$\theta = 30 \text{ degree}$$

6. (b) : $SI = \frac{P \times R \times T}{100}$

To have sum of money thrice of its initial sum we need simple interest twice the amount of principle.

$$2P = \frac{25 \times t \times P}{100}$$

8 years

7. (c) : The average of 3 number = $\frac{p+q+r}{3} = 40$

$$P + q + r = 120$$

Since q is thrice of r and p is twice of q.

$$q = 3r$$

$$p = 2q = 6r$$

$$6r + 3r + r = 120$$

$$R = 12$$

$$\text{Sum of smallest largest} = 12 + 6 \times 12 = 84$$

8. (a) : Time taken by train when running 50 km/h

$$= \frac{x}{50} = 1 + t$$

Time taken when running at 8.33 m/s

$$\frac{x}{\frac{25 \times 18}{3} \times \frac{18}{5}} = 5\text{hr} + t$$

For same distance x

$$(1 + t) 50 = 30 (5 + t)$$

$$20t = 100$$

$$t = 10 \text{ hr}$$

9. (c) : Present Average age of 4 member

$$= 12 \times 4 + 20 = 68$$

Present age of neighborhood

$$\text{Boy and the family} = 15 \times 5 = 75$$

Age of neighborhood

$$\text{Boy} = 75 - 68$$

7 years

10. (d) : $x^2 + \frac{1}{x^2} - 2 = 16$

$$\left(x - \frac{1}{x}\right)^2 = (4)^2$$

□

$$\left(x - \frac{1}{x}\right)^3 = (4)^3$$

$$64 = x^3 - \frac{1}{x^3} - 3\left(x - \frac{1}{x}\right)$$

$$x^3 - \frac{1}{x^3} = 76$$

11. (c) : Total work = $20 \times 18 = 360$

20 men works for 11 days = 220

Work left = $360 - 220 = 140$

Total finish 140 work in 5 days the total worker needed = 28

Worker added = $28 - 20 = 8$

12. (a) : Let $p = 4$, $r = 3$ and $q = 4$

$$p + q + r = 11$$

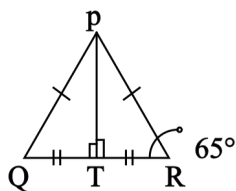
$$= 4 + 4 + 3 = 11$$

$$11 = 11$$

$$(4)^2 + (4)^2 + (3)^2$$

$$= 41$$

13. (d) :



$$\angle PRQ = \angle PQR = 65^\circ$$

(Because angle opposite to equal side)

$$\angle PRQ + \angle PQR + \angle QPR = 180^\circ$$

$$\angle QPR = 180 - 130 = 50^\circ$$

$$\angle QPT = 50/2 = 25^\circ$$

14. (c) : CP of bat be x .

$$\text{SP of bat} = \frac{85}{100}x$$

According to question,

$$= \frac{85}{100}x + 700 = \frac{120}{100}x$$

$$700 = \frac{35}{100}x$$

$$x = \text{Rs. } 2000$$

15. (a): $\tan \theta = \frac{P}{B} = \frac{H}{\sqrt{3}H}$

$$\theta = 30$$

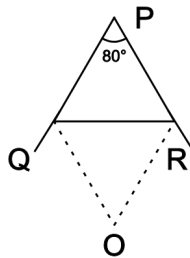
16. (a) : New area of rectangle = 576

$$576 = \frac{120}{100} \text{ breadth} \times \frac{85}{100} \text{ length}$$

$$\frac{576 \times 100}{17 \times 6} = \text{Area of old rectangle}$$

$$= 564.7 \text{ m}^2$$

17. (c) :



$$\angle QOR = 90 - \frac{1}{2} \times (\angle QPR)$$

18. (d) : $\frac{p}{q} = \frac{6x}{11x}$

$$\frac{r}{s} = \frac{33x}{12x}$$

$$\frac{pr}{qs} = \frac{6x \times 12x}{11x \times 33x} = \frac{36}{121}$$

19.(b) : Quantity of water P = 42 lt/hr

$$R = 48 \text{ lt/hr}$$

Net water quantity in an hour

$$= 42 + 56 - 48 = 50 \text{ lt/hr}$$

$$\text{Total capacity} = 50 \times 16 = 800$$

20.(b) : Original $\Rightarrow \frac{1}{5} : \frac{1}{3} : \frac{1}{4} = 12 : 15 : 20$

$$47x = 1457 \Rightarrow x = 31$$

$$16y + 17y + 14y = 1457$$

$$= 31$$

$$16y - 12x = 4 \times 31 = 124$$

21. (d) :

$$22. (b) : P1:P2:P3 = \frac{1}{100+2 \times 5} : \frac{1}{100+3 \times 5} : \frac{1}{100 \times 4 \times 5}$$

$$= 552 : 528 : 506$$

$$= 276 : 264 : 253 \quad P1 = 1932, P2$$

$$= 1848, P3 = 1771$$

23. (d) : First pay for car is

$$103823 = \frac{94}{100} \times \frac{94}{100} \times \frac{94}{100} x$$

$$x = 125000$$

24. (b) :

$$25. (c) : \text{Area of equilateral triangle} = \frac{\sqrt{3}}{2} a^2$$

$$\text{Area of triangle after side increased by } 12\% = \frac{\sqrt{3}}{2} (1.2a)^2$$

$$\text{Change in area} = \frac{\sqrt{3}}{2} (1.44a^2) - \frac{\sqrt{3}}{2} a^2 = 0.44a^2$$

26. (a) : Last year (Pulsar 3) : (Bullet 4)

$$\text{Present year } 3 \frac{5}{4} : 4 \frac{3}{2}$$

Therefore present cost of bullet

$$= \frac{3.9}{39} \times 24 = 2.4 \text{ lakh}$$

Last year cost = 1.6 lakh

27. (b) : $\angle PQR$ and $\angle RSQ$

Are equal since drawn on same chord

$$\angle RSQ = 70^\circ$$

$\angle SQR = 90^\circ$ (because SR is diameter and angle drawn on diameter are always 90°)

$$\angle RSQ + \angle SQR + \angle QRS = 180^\circ$$

$$\angle QRS = \angle RQT$$

(alternate interior angle)

$$\angle RQT = 20^\circ$$

28. (c) : $S_1 + S_2 = \frac{400}{10} = 40$

$$S_1 - S_2 = \frac{400}{50} = 8$$

$$S = 24 \text{ m/s}$$

$$1 = 16 \text{ m/s}$$

29. (a) : $(x + 16) \times 90 = x \times 108 + 16 \times 0$

$$8x = 16 \times 90$$

$$x = 80 \text{ liter}$$

30. (d) : $\frac{\text{LCM of } (60, 60, 60)}{\text{HCF of } (24, 36, 12)} \frac{60}{12} = 5 \text{ sec}$

31. (a) : $\text{LCM } \frac{1}{2} \text{ and } \frac{2}{5}$

They flash together after every $= 2/1 = 2$ second

$$\text{In a minutes they will flash} = \frac{60}{2} = 30 \text{ times}$$

32. (b) :

33.(c) : Total number of ways in which the digit at units

$$\text{place can be} = 10 \times 10 \times 10 \times 10$$

The digit at unit's place in x

Will be 1 or 3 or 7 or 9 only

When the unit's place is

1 or 3 or 7 or 9

$$n(E) = 4 \times 4 \times 4 \times 4$$

$$p(E) = \frac{4n}{10n} = \frac{16}{62.5}$$

34. (d) : Slant height of the cone = $\sqrt{11^2 + 14^2} = 17.8$

$$\text{Total surface area of the tent} = 2 \times \pi \times 14 \times 2 + \pi \times 14 \times 17.8 = 959.2 \text{ m}^2$$

35.(c) : The sum is more than 11 when

Digits are 6, 5 or 5, 6 or 6, 6

$$n(E) = 3$$

$$n(S) = 36$$

$$PE = \frac{n(E)}{n(S)} = \frac{3}{36} = \frac{1}{12}$$

36. (c) : At least one red ball drawn = Only 1 red ball drawn + 2 red ball drawn + 3 red ball drawn

At least one red ball drawn = 1 – No red balls drawn

$$= \frac{({}^{12}C_1 \times 7_{C_1} + {}^{7}C_2 \times {}^{12}_{C_1} + 7_{C_3} + {}^{12}_{C_3})}{{}^{32}_{C_3}}$$

$$1 - \frac{969}{4960} = \frac{3991}{4960}$$

37. (c) :

38. (a) : By SAS similarity condition

$\Delta POQ \sim \Delta SOR$

$$\frac{1}{2} = \frac{12}{5R}$$

$$SR = 24 \text{ cm}$$

39. (d) : Volume of cube = $(44 \text{ cm})^3$

$$\text{Volume of each bullet} = \frac{4}{3}\pi \times (2)^3$$

$$\text{Number of bullets} = \frac{(44)^3}{\frac{4}{3}\pi(2)^3}$$

40. (c) : % change in volume

$$= 20 + 10 - 5 + \frac{20 \times 10 + 20(-5) + 10(-5)}{100}$$

$$\frac{+(20)(10)(-5)}{104}$$

$$= 25.6$$

Data Interpreters

1. (a): $V_1 = \frac{50}{360} \times 7200 + \frac{55}{360} \times 7200$

$$= \frac{105}{360} \times 7200$$

$$\frac{\frac{65}{360} \times 7200}{360} \times 100$$

$$= 16154 \times 100$$

$$= 161.54\% - 100$$

=61.54% more

2. (b) : The difference between sales of T1 and T5 is

$$= \frac{144}{100} \times \frac{46}{360} \times 7200 - \frac{115}{100} \times \frac{65}{360} \times 7200 = 170$$

3. (d) : The new number of T5 deserts

$$\text{sold} = \frac{90}{100} \times \frac{55}{360} \times 7200 = 990$$

The sum of T5 and T4 = 990 + 1400

4. (d) : T4 is more than T2 by

$$= \frac{\frac{70}{360} \times 7200}{\frac{50}{360} \times 7200} \times 100$$

$$= 140 - 100 = 40 \text{ percent}$$

So, T4 is 140 percent of T2

5. (a) : $L1 = \frac{46^\circ}{360^\circ} \times 7200 + \frac{74^\circ}{360^\circ} \times 7200 = 2400$

$$L2 = \frac{70^\circ}{360^\circ} \times 7200 + \frac{50^\circ}{360^\circ} \times 7200 = 2400$$

According to the question,

$$\left[\frac{L1 - L2}{L2} \right] \times 100 = 0\%$$

6. (c) : $M + F + G = 60$

$$G = 15 + M, 2M = 60 - 35 - 15$$

$$\Rightarrow M = 5$$

7. (c) : According to the question both statements are needed to know A is the lightest

$$C > D > B > E > A$$

8. (a) : Since, Srijith sold maximum number of product, he is the best salesman

9. (d) : Both statements do not give the total number of student who qualified in the exam.

10. (d) : Since gender of Q is not known from both statements So neither I nor II together or alone gives the answer.

11. (a) : The male teacher from T2 = $\frac{3}{5} \times 2800 = 1500$

Difference between male and female teacher

$$\frac{5}{9} \times 8181 = 909 \times 5 = 4545$$

$$\text{Ratio} = 1500/4545 = 100 : 303$$

12. (d) : Male teacher in T2 school = $\frac{3}{5} \times 2500$

Male teacher in T3 school = $\frac{5}{6} \times 6000$

Sum of male teacher of T2 and T3

Schools = 7000

13. (a) : New number of male teacher in T3

$$= \frac{80}{100} \times \frac{5}{6} \times 6600 = 4400$$

New number of female teacher in T1

$$= \frac{3}{7} \times 2800 \times \frac{120}{100} = 1440$$

The difference is $4400 - 1440 = 2960$

14. (c) : The average number of teacher in a school is

$$\frac{\text{Total number of teacher}}{\text{Total number of school}}$$

$$\frac{24713}{5} = 4942.6$$

= 4943

15. (c) : $J1 = 5500 + 2316 + 1818 = 9634$

$J2 = 6363 + 2316 = 8679$

$$\frac{9634 - 8679}{9634} \times 100$$

= 9.91%

16. (c) : $L1 = \frac{800+2100+5800+10000}{4} = 4675$

$$L2 = \frac{2000+3000+4100+11000}{4} = 5025$$

$$L3 = \frac{1000+1250+2250+5800}{4} = 2575$$

$5025 - 4675 : 4675 - 2575$

$$\text{Ratio} = \frac{350}{2100} = \frac{1}{6}$$

17. (c) : C2 sold in shop S2 = 3000

C3 sold in shop S1 = 1000]

According to the question,

$$= \frac{2000}{1000} \times 100$$

= 200 percent more

18.(a) : The new number of calculator sold is $5800/2 = 2900$

The calculator C1 of S2 shop = 2100

$$2900 + 2100 = 5000$$

19. (b) : The value of J1 = $2250 + 1250 = 3500$

The value of J2 = $3000 - 2000 = 1000$

$$J1 : J2 = 3500 : 1000 = 7 : 2$$

20.(a) : The sum of C4 of S2 and S4

$$\text{Shop} = 8000 + 5000 = 13000$$

C2 of S4 shop = 11000

According to the question,

$$= \frac{13000}{11000} \times 100$$

= 118.18%

21. (c) : L1 = $2500 + 4000 = 6500$

$$L2 = 1750 + 2000 = 3750$$

$$\Rightarrow \frac{L1}{L2} = \frac{6500}{3750} = \frac{26}{15}$$

22.(a) : Sum of comic C1 of publisher P2 and comic C2 of publisher P1, L1 = $3550 + 4000 = 7550$

Total C2 comic published = 6350

According to question,

$$= \frac{7550 - 6350}{6350} \times 100$$

$$= \frac{1200}{6350} \times 100$$

= 18.9%

23.(c) : Total money obtained after selling C4 of P1 = $30 \times 2750 = \text{Rs. } 82500$

Total money obtained after selling C4 of P2 = $20 \times 4250 = 85000$

Total money obtained after selling C4 = $82500 + 85000 = 167500$

24.(a) : Average number of C2 and C4 of publisher P2 = $\frac{2350+4250}{2} = 3300$

Average number of C3 and C4 sold of publisher P1 = $\frac{1750+2750}{2} = 2250$

According to question,

$$= \frac{3300}{2250} \times 100$$

$$= 146.67\%$$

25. (c) : Net difference = Sum of number of comic sold of publisher P2 – Sum of number of comic sold of publisher P1
= 450

26. (b) : Surface area of hemisphere = $2\pi r^2$
 $2\pi r^2 > r$

27. (c) : Arun sold the watch to Rohan at 10%

$$x \times \frac{110}{100} = 5500$$

Cost price of Arun $x = 5000$

If cost price for Arun increases by 500. Then new CP = $5000 + 500$, which is equal to the cost price of Rohan.

28. (a): Rohan's saving = $2 \times \frac{40000}{5} = 16000$

Rohan's expenditure on food = 15000

Rohan's saving > Rohan's expenditure on food

29. (b): Present sum of ages of four people = $4 \times (16 + 2) = 72$

New person's age is = $18 \times 5 - 4 \times 18 = 18$

$20 > 18$

30. (a): LCM of 12, 15, 20 = 60

Total work is 60

$$P_1 + P_2 = \frac{60}{12} = 5$$

P_1 can fill tank in = $\frac{60}{15} = 4$ hours

$$4 + P_1 = 5 \Rightarrow P_1 = 1$$

P_1 alone can fill tank in 60 hours

$$P + Q - \text{Leakage} = \frac{60}{20} = 3$$

$$4 + 1 - \text{Leakage} = 3$$

$$\text{Leakage} = 5 - 3 = 2$$

$$\text{Time taken} = \frac{60}{2} = 30 \text{ hours}$$

$t_2 < t_1$

31. (b) : According to question, the sum of number of students = $960 + 200 + 360 + 350 = 1870$

32. (a) : The sum of male student from electrical and computer science = $360 + 480 = 840$

According to the question the ratio is = $\frac{840}{200} = 21:5$

33.(d) : Number of female students in mechanical and computer science stream = $200 + 600 = 800$
Difference between male students of mechanical and electrical streams = $960 - 360 = 600$

According to question,

$$= \frac{800 - 600}{600} = \frac{200}{600} \times 100$$
$$= 33.33\%$$

34.(d) : Total number students in electrical stream = $360 + 350 = 710$
Total number of female students = 1600

According to question,

$$= \frac{710}{1600} \times 100$$
$$= 44.37\%$$

35. (d) : $L1 = 600 - 480 = 120$
 $L2 = 960 - 200 = 760$
 $L1 : L2 = 120 : 760$
 $= 120 : 760$
 $= 3 : 19$

36.(a) : As given in the question, his total marks $E + M + C = 120$. From statement I, we get $E + C = 90$. From here his marks of Mathematics are known. Therefore, statement I alone is sufficient to answer the question. Statement II alone is not sufficient because from this $C = 40$ which can't help us to know the marks of Mathematics

37.(b) : As given in the question, the salaries of Satish, Anoop and Sandeep are $4x$, $5x$, and $7x$, respectively. From statement II, we get $7x - 5x = 4000$ and $x = 2000$. Hence, Anoop's salary = $5 \times 2000 = 10,000$.

38.(c) : Because relation between P and K cannot be established with the help of statement I and II. Hence, even both the statements cannot answer the question.

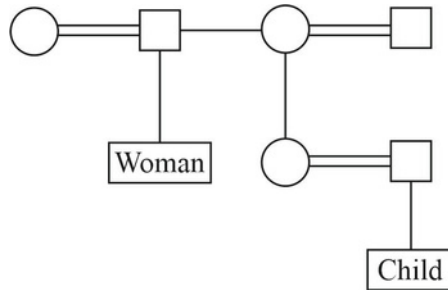
39.(b) : 146 = adopt good habits. From statement II, it is clear that 6 and habits are in common in question and statement II. Hence, 6 stands for habits.

40.(a) : From statement I alone, we find that Sunita is 38 years old. Statement II alone is not sufficient to answer the question.

Logical Reasoning

- (c) : $2 \times 1 = 2$; $3 \times 2 = 6$; $5 \times 3 = 15$; $7 \times 4 = 28$; $11 \times 5 = 55$; $13 \times 6 = 78$
- (c) : $123 - 12 = 1716$
 $153 - 15 = 3360$
- (a) : Glycogen is animal starch.
- (d) : 18 is the age of voting for male in India.
21 is the age of marriage for male in India.
- (b) :
- (b) : $289 = 172$

7. (c) : Tomato is a fruit, other are roots.
 8. (a) : POTS if written backwards also forms a sensible word STOP.
 9. (c) : The child is daughter of cousin of the woman.



10. (d) : $P > Q > J > I/T > T/I > R$

11. (b) :

H	E	L	P
-2 ↓	-1 ↓	+1 ↓	+2 ↓
F	D	K	R

Similarly,

Q	U	E	N	C	H
-3 ↓	-2 ↓	-1 ↓	+1 ↓	+2 ↓	+3 ↓
N	S	D	O	E	K

12. (b) :

J	O	G	G	E	R
+2 ↓	-2 ↓	+2 ↓	-2 ↓	+2 ↓	-2 ↓
L	M	I	E	G	P

and

P	R	I	C	K
+2 ↓	-2 ↓	+2 ↓	-2 ↓	+2 ↓
R	P	K	A	M

Similarly,

S	W	E	E	T
+2 ↓	-2 ↓	+2 ↓	-2 ↓	+2 ↓
U	U	G	C	V

13. (a) : (c) : (a) : (a) : (a) : The earth is planet, Sun is a star and moon is a

14. natural satellite. (c) : (b) : (d) :

15.

16.

17.

18.

19.

20.

L E M O N
 $+3 \downarrow -2 \downarrow +3 \downarrow -2 \downarrow +3 \downarrow$
 O C P M Q

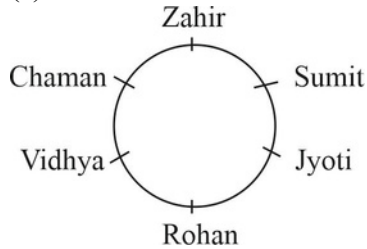
and

R U S T
 $+3 \downarrow -2 \downarrow +3 \downarrow -3 \downarrow$
 U S V Q

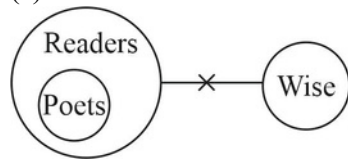
Similarly,

C O M P L I C A T I O N
 $+3 \downarrow -2 \downarrow +3 \downarrow +3 \downarrow +3 \downarrow -2 \downarrow +3 \downarrow -2 \downarrow +3 \downarrow -2 \downarrow -2 \downarrow +3 \downarrow$
 F M P S O G F Y W G M Q

21. (b) : (c) : (c) : (b) : (b) : 72 - 2; 70 + 4; 74 - 6; 68
 22. + 8; 76 - 10 (c) : D + 7 = K; K + 7 = R; R + 7 =
 23. Y; Y + 7 = F
 24.
 25.
 26.
 27. (b) : The pattern is ppppppppppppppppppppppp
 28. (c) : On the basis of information.



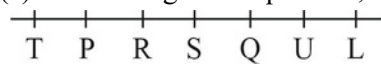
29. (a):



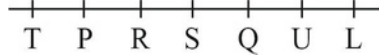
According to the question,

So, poets are not wise but all readers are not necessarily poets.

30. (d) : Option (d) is correct, as earthworm makes soil fertile, hence (A) is false but (R) is true.
 31. (a) : Option (a) is correct because diamond is the hardest material and easily cut the glass. So, (A) and (R) are correct and (R) is correct explanation of (A).
 32. (c) : Option (c) is correct because (A) is correct but (R) is false.
 33. (a) : The code for following alphabets T = 8, R = %, O = #, E = @
 34. (b) : Some students are scholarsbut book is unrelated.
 35. (a) : According to the question,



36. (d) : According to the question,



37. (b) : $12 \times 1 + 4 = 16$; $16 \times 2 + 8 = 40$; $40 \times 3 + 12 = 132$; $132 \times 4 + 16 = 544$

38.(c) : $BAG = 2 + 1 + 7 = 10$

$$T = 20$$

$$KS = 11 + 19 = 3 \times 10 = 30$$

$$WGT = 23 + 7 + 20 = 50$$

39.(b) : $R \div M$ means R is father of M.

$M - P$ means M is sister of P.

So, M is daughter of R.

40.(c) : Mother of the girl is only daughter of his mother in law's husband means that mother of the girl is his wife. So Gopal is father of the girl.

Indian and Global Environment

1.(d) : The Securities and Exchange Board of India (SEBI) has launched an information database including a repository of information pertaining to municipal bonds on its website.

2.(a) : The Union Minister Ashwini Vaishnaw, Ministry of Electronics and Information Technology (MeitY) launched the Stay Safe Online campaign and the Digital Innovation Alliance (DIA) program, the first-ever programs to be launched worldwide as a G20 (Group of Twenty) initiative.

3.(b) : Kerala Chief Minister (CM) Pinarayi Vijayan inaugurated the Palm leaf Manuscript Museum with modern audio-visual technology at the renovated Central Archives, Fort area in Thiruvananthapuram, Kerala.

4.(a) : The Indian Space Research Organisation (ISRO) and Microsoft India signed an MoU to support and promote the growth of space technology startups in India.

5.(c) : Amit Shah, Minister of Home Affairs, released a book titled "Revolutionaries- The Other Story of How India Won Its Freedom" authored by Economist Sanjeev Sanyal, member of the Economic Advisory Council to the Prime Minister(EAC-PM), at a function in New Delhi, Delhi.

6.(b) : Mohammad Shahabuddin Chuppu, a former judge and freedom fighter, has been declared the next President of Bangladesh by Bangladesh's Election Commission.

7.(c) : The 6th Annual Hollywood Critics Association (HCA) Film Awards 2023, held at the Beverly Wilshire in Los Angeles, United States (US), has acknowledged "RRR," directed by SS Rajamouli, on a global scale and honoured it with 5 awards.

8.(a) : The Australian women's national cricket team captained by Meg Lanning won the 8th edition of the International Cricket Council (ICC) Women's Twenty20 International (T20I) World Cup 2023 by defeating South Africa women's team captained by Sune Luus by 19 runs in the finals held in the Newlands Cricket Ground in Cape Town, South Africa.

9. (c) : The Reserve Bank of India (RBI) has amended the bank locker rules w.e.f. January 1, 2023. In this regard, all the existing locker depositors are required to furnish proof of eligibility for a renewed locker arrangement. They are required to sign a renewal agreement before the specified date.

10. (c) : The United Nations(UN)'s International Day of Happiness is annually observed across the globe on 20th March to recognise happiness, the fundamental goal of humans and to highlight its importance in the lives of people around the world.

11. (c) : Both the statements are correct.

12. (a) : According to 'Artificial Intelligence Index Report 2023', the 6th edition of the annual Artificial Intelligence(AI) index report published by Stanford University's Human-Centred Artificial Intelligence (HAI), India is ranked 5th in terms of private investments received in 2022 by startups offering AI-based products and services with a total investment of US\$3.24 billion.

13. (a) : Simon Sebag Montefiore, a British historian, discussed his recent book "The World: A Family History" in an interview with an Indian historian Manu S. Pillai.

14. (c) : Finland became the 31st member of the North Atlantic Treaty Organization (NATO) on April 4, 2023, when it presented its instrument of accession to the 'North Atlantic Treaty' (Washington Treaty) with the United States (US) at NATO Headquarters in Brussels, Belgium.

15. (b) : A UPI LITE wallet allows a user to do instant transactions of up to ₹200. A maximum of ₹2,000 can be added twice in a day to UPI LITE, making the cumulative daily usage up to ₹4,000.

16. (b) : The world's first 200-meter-long Bamboo Crash Barrier, named "Bahu Balli," has been installed on the Vani-Warora Highway in Vidarbha, Maharashtra.

17. (c) : The Arunachal Pradesh Protection of Drinking Water Catchment Areas Bill, 2023 was recently passed via voice vote by the state assembly.

18. (a) : The Cabinet has been approved a newly central sponsored scheme called PM SHRI on 7 September, 2022. These schools will showcase the implementation of the National Education Policy 2020 and emerge as exemplar schools over a period of time, and also offer leadership to other schools in the neighbourhood.

19. (d) : Edelweiss General Insurance has rebranded itself as Zuno General Insurance Limited (Zuno GI), a new-age digital insurer with the ambition to reimagine and redefine insurance to make it easy, friendly, and transparent.

20. (a) : The Government of Jammu and Kashmir (J&K) has initiated a programme "alternate agriculture system for sustainability project" to boost organic food production and increase economic returns for farmers in the Union Territory (UT).

21. (b) : "The Paradise of Food" authored by noted Urdu writer Khalid Jawed, and translated by Baran Farooqi from Urdu to English won the 5th JCB Prize for Literature 2022.

22.(c) : The Indian Space Research Organisation (ISRO) has conducted its 200th consecutively successful launch of the Rohini “RH-200” sounding rocket from its lead facility, the Vikram Sarabhai Space Centre (VSSC) in Thiruvananthapuram, Kerala.

23.(b) : On 24th December 2022 Ladakh, Jammu & Kashmir (J&K) celebrated the Losar Festival to mark the Ladakhi New Year, a major socio-religious festival of Ladakh celebrated in winter. Losar is a 15-day long festival that falls during the winters, any time between 8th and 30th December.

24.(a) : Nirmala Sitharaman announced the 'Dekho Apna Desh' scheme. In this new plan, the finance minister said that a total of 50 destinations in the country will be selected to be developed as a whole package in tourism with a challenging mode.

25.(c) : Itanagar, March 30 (Uni) The centuries-old monastic dances specially the dance of deities Palden Lhamo and Gonpo or Mahakala were introduced for the first time in Palpung Zangdok Palri Monastery, Jang in Tawang district of Arunachal Pradesh on Thursday.

26.(b) : On 15th March 2023, Ujjivan Small Finance Bank Limited was honoured with the ‘Innovation in Consumer Tech’ award at the 13th Aegis Graham Bell Awards (AGBA) for its Hello Ujjivan app, India’s 1st visual-voice-vernacular banking app.

27.(a) : The government of Sri Lanka’s proposed Anti-Terrorism Act would empower the authorities to systematically violate fundamental human rights, Human Rights Watch said.

28.(d) : According to the estimates released by consulting firm EY (Ernst & Young) in its report ‘India@100: Realising the potential of a \$26 trillion economy’, India’s economy will reach USD 26 trillion by 2047.

29.(c) : On April, 9, 2023, the Prime Minister Narendra Modi inaugurated the program ‘Commemoration of 50 years of Project Tiger’ at Mysuru University in Mysuru, Karnataka, the first of its kind in India, organised to mark 50 years of Project Tiger.

30.(b) : Padma Shri Awardee Prabhaben Sobhaghchand Shah, Social Worker from Union Territory (UT) of Dadra and Nagar Haveli, Daman, and Diu passed away in Daman at the age of 92.

31.(a) : The Appointments Committee of the Cabinet (ACC), headed by Prime Minister Narendra Modi, has approved the reappointment of Michael Debabrata Patra as the Deputy Governor of the Reserve Bank of India (RBI) for a further period of one year with effect from the 15th January 2023.

32.(c) : MSF provides a safety valve against unanticipated liquidity shocks to the banking system. The MSF rate is placed at 25 basis points above the policy repo rate.

33.(a) : Indo-Gangetic-Brahmaputra Plain is the largest alluvial tract of the world. It stretches for about 3,200 km from the mouth of the Indus to the mouth of the Ganga. Indian sector of the plain accounts for 2,400 km.

34.(a) : On April 14, 2023, the Union Minister Parshottam Rupala, Ministry for Fisheries, Animal Husbandry and Dairying (MoFAHD), launched project, ‘Animal Health System Support for One

Health' (AHSSOH) funded by World Bank, under the aegis of National One Health Mission to improve India's preparedness and response to potential animal pandemics.

35. (c) : Indian Mutiny, also called Sepoy Mutiny or First War of Independence, widespread but unsuccessful rebellion against British rule in India in 1857–59.

36. (d) : R'Bonney Gabriel of the United State of America (USA) was crowned 71st Miss Universe 2022 during the Miss Universe 2022 pageant held in New Orleans, Louisiana.

37. (a) : IDFC Mutual Fund (MF) has rebranded itself as Bandhan Mutual Fund w.e.f. March 13, 2023. In this regard, its each scheme will be renamed to replace the word 'IDFC' with the word 'Bandhan'.

38. (b) : World Rotaract Day is annually observed across the globe on March 13 to recognise and appreciate the services provided by Rotaractors, and members of Rotaract Clubs ('Rotaract' stands for 'Rotary in Action').

39. (d) : G. V. Mavlankar was not one of the members of the Drafting Committee of the Constituent Assembly.

40. (c) : The Government of Gujarat has achieved 100% household tap water supply in rural areas under the 'Jal Jeevan Mission' (JJM).

Language Comprehension

1. (b) : Temper means one's characteristics and attitude. Here, as per the context of the sentence temper makes more sense. Dialect is used in sense of terminology.

2. (d) : Late is the positive adjective degree. The sentence demands positive degree of adjective only in the first blank. Pursue means to seek something. No other option fits meaningfully in the second blank.

3. (a) : Sophisticated means made or done with great care or with much detail. As the sentence is talking about human technology and navigation, sophisticated makes sense in the first blank. Sail means to travel on water.

4. (d) : Circulating means to move or make something move round continuously. With the substance like blood, circulating is the term used in the medical science.

5. (a) : Go bananas means to get angry or to go mad.

6. (c) : Engine room means the main source of talent, power, or ability in a team or group, likened to the room that houses a ship's engine.
Sarah is our engine room, so with her injured, I'm not sure how we'll be able to win on Saturday.

7. (b) : Preposition 'on' will be used with the location. Depends on is the correct prepositional phrase.

8.(d) : No correction is required in the given sentence as the verb usage is correct. Moreover, article 'a' before massive is correctly placed.

9.(a) : At first means at the beginning, with the context like this preposition 'at' is used with the term first

10.(b) : The use of that in the second option is redundant. Moreover, pronoun that is not used when talking about a human entity.

11.(c) : Had instead of has will be used with reacted. As the sentence is given in the past tense. Past form of verbs will be used.

12.(b) : Gloomy means causing or marked by an atmosphere lacking in cheer. Dark is one of the synonyms of gloomy. Hence, form a synonym pair.

13.(c) : Grown means covered with a thick healthy natural growth whereas impoverished means producing inferior or only a small amount of vegetation. Impoverished is the direct antonym of grown.

14.(d) : Desolate means causing or marked by an atmosphere lacking in cheer. Morose means the same as desolate. Blithe and mirthful are antonyms of desolate.

15.(a) : Agglomeration means an unorganized collection or mixture of various things. Clutter is the only word which means the same.

16.(a) : Prune means to make (something) shorter or smaller with the use of a cutting instrument. Extend means longer.

17.(d) : Omni is a root word which means all and potent means potential or power. So, the correct answer must be omnipotent.

18.(c) : Pyro is the woot word which means fire. Mania means a serious mental illness that may cause somebody to be very excited or violent. Hence, the correct answer must be pyromania.

19.(b) : P starts the topic sentence. Q and S can never start the paragraph. S concludes the given idea. Hence, PRQS is the only logical sequence here.

20.(c) : However is used for adding a comment to what you have just said, that means P can never start the paragraph. Q introduces the topic of level of education. RS is a link. Hence, QPRS is a logical sequence here.

21.(c) : The first two lines of the paragraph mention the reason. It clearly says- "Here are to be found remains of aboriginal settlements".

22.(d) : All the options are mentioned in the given passage except the last one. The last few lines refer to the huts.

23.(d) : Stereotype means a set idea that people have about what someone or something is like.

24.(a) : At various instances, the passage mentions how people were trapping fish. It also discusses the technology they employed to do the same thing.

25.(b) : On the hills

26.(c) : The passage mainly talks about the harmful effects of air pollution on environment. At various instances, it talks about climate change and diseases caused by it.

27.(c) : When we are talking about an area of livelihood we mainly talk about its surroundings. Here, rich means area filled with lush greenery and clean environment.

28.(d) : It is stated in the passage that air pollution affects both circulatory and respiratory system. Nothing has been talked about the digestive system.

29.(a) : The first line of the last paragraph mentions this fact.

30.(d) : Penetrating means to go or come in or into. Other than intruding all are antonyms of penetrating.

31.(b) : Following the flow of information given in the passage, the right order can be traced. II event started in 1960s, I started in 1980s and the last one started in 2001.

32.(c) : The fourth line of the paragraph clearly mentions that the cloud computing has evolved from the concepts of utility, grid and SaaS.

33.(d) : The last lines talk about SaaS and its application. And it clearly mentions that SaaS has raised the level of virtualization to the application mainly by the estimation of the application to supporters.

34.(c) : Devoured means to make complete use of. Depleted is one of its synonyms.

35.(b) : This could be traced in the last line of the passage – “In 2001, IBM began autonomic computing likewise called self-revision in which computers can naturally rectify themselves without human mediation.”

36.(a) : The passage mainly talks about the theory behind more men being born after war than women.

37.(d) : The given fact has been mentioned in the second paragraph of the passage.

38.(c) : Gellatly has mainly focused on the theory mentioned in the third option. He has again and again stated examples to support the same argument.

39.(a) : The given fact is given in the second paragraph of the passage.

40.(a) : Odds mean the degree to which something is likely to happen; the probability of something happening.