SSC CGL Free Mock – (Solutions)

S1. Ans.(d)
Sol.

B D Y W

Opposite letter pair, (sum of digits of letters position is 27)
Except (d) all follow above pattern.

S2. Ans.(b)
Sol. synonymous of given word.

S3. Ans.(c)
Sol. sun temple is situated in Odisha similarly. Elora caves is situated in Maharashtra.

S4. Ans.(c)
Sol. $(7)^2+1= 50$
$(9)^2-1 = 80$
$(11)^2+1= 122$
$(13)^2-1 = 168$

S5. Ans.(d)
Sol. $(11)^2-1 = 120 : (12)^2+1 = 145$
$(13)^2-1 = 168 : (14)^2+1 =197$
$(15)^2-1 = 224 : (16)^2+1 = 257$

S6. Ans.(d)
Sol. follow -6, -3 sequence.

S7. Ans.(d)
Sol. $\frac{14\times5}{7} = 10$
$\frac{18\times2}{4} = 9$
$\frac{16\times3}{2} = 24$
$\frac{13\times6}{2} = 39$

S8. Ans.(b)

Sol. 110-80 = 30

78-48 = 30

S9. Ans.(d)

Sol.

C U P E
↓ ↓ ↓ ↓
$(3)^2$ (5) $(16)^2$ 2
↓ ↓ ↓ ↓
9 5 256 2
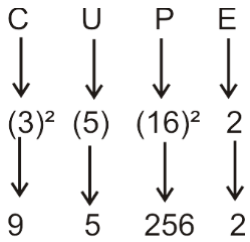
Square the position no. of consonant and position of vowel.

T A P E
↓ ↓ ↓ ↓
$(20)^2$ (1) $(16)^2$ 2
↓ ↓ ↓ ↓
400 1 256 2
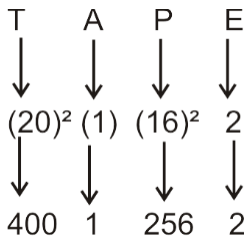
S10. Ans.(C)

Sol.

S11. Ans.(c)

Sol.

1 2 6 24 120 720
 ×2 ×3 ×4 ×5 ×6
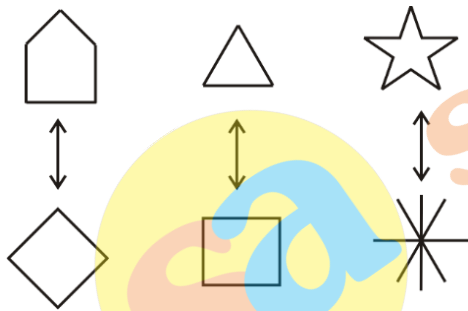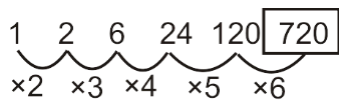
S12. Ans.(d)

Sol. 4+6×2-2×1 = 14

16-2 = 14

S13. Ans.(d)

S14. Ans.(b)

Sol. $(1)^3 + 2 = 3$

$(2)^3 + 2 = 10$

$(3)^3 + 2 = 29$

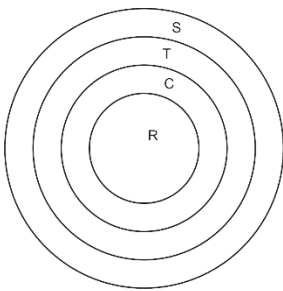$(4)^3 + 2 = 66$

$(5)^3 + 2 = 127$

$(6)^3 + 2 = 218$

$(7)^3 + 2 = 345$

$(8)^3 + 2 = 514$

S15. Ans.(b)

Sol.

S16. Ans.(c)

Sol. follow -4, -3, -2, -1 is 1st four letter and last four letters.

S17. Ans.(b)

Sol. abcde/edcba/abcde/e series follow.

S18. Ans.(b)

Sol. $\frac{8 \times 27}{3} = 72$

$\frac{16 \times 15}{3} = 80$

S19. Ans.(d)

S20. Ans.(b)

S21. Ans.(c)

S22. Ans.(b)

S23. Ans.(c)

S24. Ans.(c)

S25. Ans.(b)

S26. Ans.(a)
Sol. In a human, the vermiform appendix is a small, finger-sized structure, found at the end of our small caecum and located near the beginning of the large intestine or at the junction of large and small intestine.

S27. Ans.(c)
Sol. In butterflies the sex determination is based on ZW system as they lack the sex chromosomes.

S28. Ans.(c)
Sol. The Gupta gold coins were known as Dinar. The world's first coins were Greek, made in Lydia about 640 BC. The earliest Indian coins were silver, and it was not until about 100 AD that the Kushan emperor Vima Kadaphises introduced the first Indian gold coin, which a gold dinar was bearing the image of Shiva. So India's history of issuing gold coins dates back almost 2,000 years.

S29. Ans.(d)
Sol. The temple of Angkorwat in Combodia was dedicated to Vishnu, the supreme god of Hinduism. The temple was built by the Khmer king Suryavarman II in the early 12th century.

S30. Ans.(b)
Sol. The following parts has been borrowed from the constitution of USA
1. Impeachment of the president
2. Functions of president and vice-president
3. Removal of Supreme Court and High court judges
4. Fundamental Rights
5. Judicial review
6. Independence of judiciary
7. Preamble of the constitution

S31. Ans.(d)
Sol. In the tenth book (Tenth Mandala) of Rigveda, 129th hymn (Suktam) deals with the origin of the universe and creation.

S32. Ans.(a)
Sol. The Directive Principles of the State Policy (DPSPs) lay down the guidelines for the state and are reflections of the overall objectives laid down in the Preamble of Constitution. The expression Justice-social, economic, political is sought to be achieved through DPSP. These are given in article 36-51.

S33. Ans.(c)
Sol. Blood plasma cells form 55 – 60% by volume of blood. Antibodies and some other substances such as lysozyme and properdin always occur in the plasma. They serve to destroy bacteria, viruses and toxic substances that may enter into the blood from outside or from body tissues.

S34. Ans.(b)

Sol. Deepti Sharma has become the 1st Indian cricketer to bowl 3 maidens in T20I. This history was created during the India's first T20I against South Africa at the Lalabhai Contractor Stadium in Surat, Gujarat.

S35. Ans.(d)

Sol. The transitional zone between two distinct communities is known as Ecotone. It has the features of both these communities. It often has higher number of species and organisms than both the communities. The influence of the two bordering communities on each other is known as the Edge Effect. Meeting points of two water bodies like Estuaries and Lagoons are examples of Ecotone.

S36. Ans.(a)

Sol. The maximum biodiversity is found in tropical rainforest. Tropical belt extends between Tropic of cancer and Tropic of Capricorn. This is the region of highest photo-activity as sun shines for more or less whole year which means high photosynthesis and productivity ultimately led to the high biomass.

S37. Ans.(b)

Sol. With an area of about 9.6 million km^2, the People's Republic of China is the 3rd largest country in total area behind Russia and Canada, and very similar to the United States.

S38. Ans.(b)

Sol. Black soil is a rich soil that is good for crops like cotton. It is found in various places around the world. It is most abundantly found in western central India.

S39. Ans.(c)

Sol. Oxbow lake is a feature formed by River erosion in mature stage. An ox-bow is a crescent shaped lake lying alongside a winding river. The ox-bow lake is created over time as erosion and deposits of soil change the river's course.

S40. Ans.(d)

Sol. Maximum of two from leading universities research organizations and other relevant institutions in an ex-officio capacity. Part-time members will be on a rotational basis.

S41. Ans.(b)

Sol. Cosmic ray is not an electromagnetic wave.

S42. Ans.(b)

Sol. Gastrin is a peptide hormone that stimulates secretion of gastric acid (HCl) by the parietal cells of the stomach and aids in gastric motility. Trypsin, Ptyalin and Pepsin are digestive enzymes. Trypsin and pepsin are proteolytic enzymes, Ptyalin or amylase is a starch degrading enzyme.

S43. Ans.(b)
Sol. National Agricultural Cooperative Marketing Federation of India Ltd (NAFED) is an apex organization of marketing cooperatives for agricultural produce in India, under Ministry of Agriculture, Government of India.

S44. Ans.(c)
Sol. Aishbagh Stadium is a field hockey stadium in Bhopal, Madhya Pradesh, India. It has a seating capacity of more than 10,000 people.

S45. Ans.(d)
Sol. Sugarcane is grass of the family Poaceae, primarily cultivated for its juice from which sugar is processed.

S46. Ans.(d)
Sol. Government forms Rajiv Kumar Committee to look at selling of OIL, ONGC fields to private companies.

S47. Ans.(a)
Sol. Nigeria's president Buhari has been re-elected for a second term in recent elections held in Nigeria.

S48. Ans.(c)
Sol. Union Ministry for Health and Family Welfare (MoHFW) launched SAANS: 'Social Awareness and Action to Neutralize Pneumonia Successfully' campaign to reduce child mortality due to pneumonia.

S49. Ans.(b)
Sol. The Davis Cup is an annual international team event in men's tennis. Spain won their sixth title defeating Canada in the final 2–0. Rafael Nadal received the Most Valuable Player award for his performance in the tournament.

S50. Ans.(d)
Sol. Japan has launched Kounotori 8. The Kounotori 8, which means 'white stork', is the world's biggest transport spaceship according to Japan Aerospace Exploration Agency (JAXA).

S51. Ans.(c)
Sol. LCM of 9,13,17,38= 38×17×13×9
                   646×117 = 75582
75582N+7 be the number
ATQ,
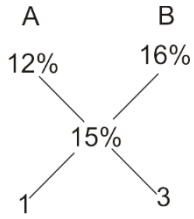   (75582+7)/11 = remainder = 8
⇨   N= 1
Number = 75582+7 = 75589
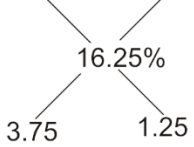Sum of digits = 7+5+5+8+9 = 34

S52. Ans.(d)

Sol. $\frac{-11}{2} \times \frac{15}{16} \times \frac{11}{34} \times \frac{2}{15} = \frac{-121}{544}$

S53. Ans.(a)

Sol.

A   B

12%   16%

15%

1   3

A:B = 1:3

A+B   C

15%   20%

16.25%

3.75   1.25

3 : 1

$[A:B = 1:3]3 = 3:9$

$[A + B:C = 3:1]4 = 12:4$

A:B:C = 3:9:4

A+B+C = 80

3n+9n+4n= 80

n= 5

15, 45, 20

S54. Ans.(c)

Sol. Let the sides be a,b,c

$a^2+b^2 = 13^2$ (1)

$b^2+c^2 = 281$ (2)

$a^2+c^2 = 20^2$ (3)

Total surface area= 2(ab+bc+ca)

Solving 1,2 & 3 we get

A,b,c = 5,12,16 units respectively

Surface area =

= 2(5×12+12×16+16×5)

= 2(60+192+80)

= (332)2= 664 units

S55. Ans.(d)

Sol. Total score = 42×30

Total score-(smallest + largest)= 40×28

42×30-40×28 = smallest + largest

100 = largest – smallest

Largest + smallest = (40+2) (28+2)- 40×28

-40×28+40×28+56+80+4 = largest + smallest

140 = largest + smallest

100 = largest + smallest

120 = largest

20 = smallest

S56. Ans.(d)

Sol. discount = 10% = (mp = 10; sp = 9)$_{11}$

Loss = 1% = cp = 100, sp = 99

Mp-   Sp   cp

110   99   100

8% profit

$\Rightarrow$ SP= = 108

Discount = 10%

$10 = \frac{MP-SP}{MP} \times 100$

$\frac{1}{10} = \frac{MP-108}{MP}$

$\frac{1}{10} = 1 - \frac{108}{MP}$

$\frac{108}{MP} = \frac{9}{10}$

MP= 120

Increased MP = $\frac{120-110}{110} \times 100$

$= \frac{100}{11}\%$

S57. Ans.(a)

Sol. loss = 36%

$\Rightarrow$ CP= 100

SP= 64 → 360

CP= $\frac{360}{64} \times 100$ for 140 articles

$\Rightarrow$ CP of 1 article = $\frac{360 \times 100}{64 \times 140}$

SP of 1 article at 54% profit = $\frac{360 \times 100}{64 \times 140} \times \frac{154}{100}$ Rs

Number of article for Rs 198

$= \frac{198 \times 64 \times 140 \times 100}{360 \times 100 \times 154}$

= 32

S58. Ans.(b)

Sol. curved surface area = 2πrh

Ratio = $r_1 h_1 : r_2 h_2$

= 8×5 : 15×4
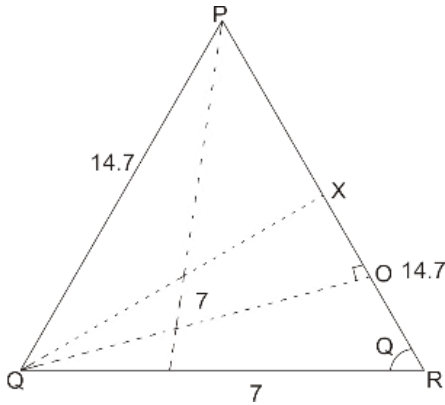
= 2:3

S59. Ans.(b)

Sol. Applying cosine rule in PQR,

$\cos R = \dfrac{7}{2 \times 14.7}$

$\cos R = \dfrac{1}{2 \times 2.1}$

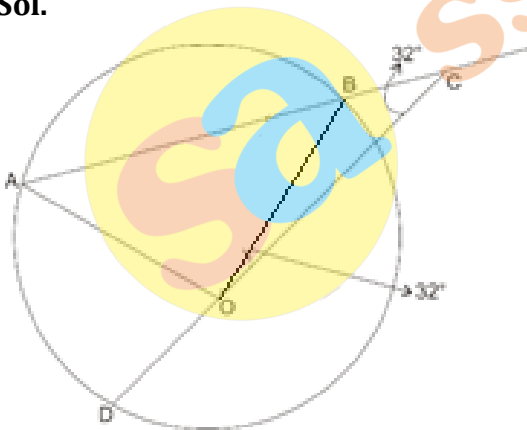$\cos R = \dfrac{10}{42} = \dfrac{5}{21}$

$\cos X = \dfrac{OX}{QX}$

$\dfrac{5}{21} = \dfrac{OX}{7}$

$OX = \dfrac{5}{3}$

$XR = \dfrac{10}{3}$ cm

S60. Ans.(b)

Sol.

$\angle BCO = \angle BOC = 32°$

$\angle OBC = 180° - 64°$

$= 116°$

$\angle OBA = 64°$

$\angle OAB = 64°$

$\angle AOB = 180° - 128° = 52°$

$\angle AOD = 180° - 52° - 32° = 96°$

S61. Ans.(b)

Sol.
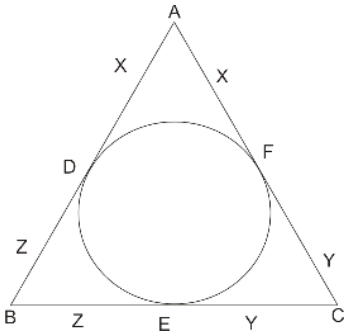
AD= AF

FC= EC

x + y = 11   (1)

z + y = 9   (9)

x + z = 13   (3)

from (2) & (3) x-y = 4 $\Rightarrow$ AD-CE= 4

S62. Ans.(d)

Sol. a) Sin 60° = $\frac{OA}{AD}$

$\Rightarrow$ $3AD^2 = 4OA^2$

C) cos60° = $\frac{DO}{AD}$

$\frac{1}{4} = \left(\frac{DO}{AD}\right)^2$

b) is a property

S63. Ans.(c)

Sol. pr+pr+pr^2 = 600

Pr+pr+pr+3pr^2+pr^3 = 938

2pr+pr^2 = 600   (1)

3pr+3pr^2+pr^3 = 938 (2)

Pr+2pr^2+pr^3 = 338

2pr+pr^2 = 600

Dividing both = $\frac{1+2r+r^2}{2+r} = \frac{169}{300}$

300+600r+300r^2 = 338+169r

300r^2+431r-38 = 0

r = $\frac{50}{2\times300} = \frac{100}{12}$ % = $\frac{25}{3}$ %

= $8\frac{1}{3}$ %

S64. Ans.(b)

Sol. $a^{\frac{1}{3}} = x$

$b^{\frac{1}{3}} = y$

$c^{\frac{1}{3}} = z$

$a = x^3$, $b = y^3$, $c = z^3$

$\Rightarrow \quad x + y + z = 0$

$(x^3 + y^3 + z^3)^6$

$= (3xyz)^6 = 729x^6y^6z^6$

$= 729a^2b^2c^2$

S65. Ans.(d)

Sol. $4(x-y) = 3(x+y)$

$4x - 4y = 3x + 3y$

$x = 7y$

$y = \frac{1}{7}x$

$k = \frac{100}{7}$

$ATQ = \frac{100}{7} \times \frac{21}{100} = 3$

S66. Ans.(d)

Sol.

= ratio = 30 : 50

10 added = 40 : 60 = 2 : 3

S67. Ans.(b)

Sol.

$\alpha = 0$;

$= 2\sin^2\beta + 4\cos\beta \sin 0 \sin\beta + \cos 2\beta$

$= 2\sin^2\beta + 1 - 2\sin^2\beta = 1$

$\alpha = 90°$;

$2\sin^2\beta - 4\sin\beta \sin\beta - \cos 2\beta$

$-2\sin^2\beta - 1 + 2\sin^2\beta = -1$

If $\beta = 0$

$= \cos 2\alpha$

S68. Ans.(b)

Sol. for $\theta = 0$

we are getting

$\cos^2\cos 0 + \sin^2\sin 0 = \cos^2 1$

for $\theta = 90$

we are getting

$1 + \sin^2 1$

S69. Ans.(c)

Sol.

$\csc Y = \frac{1}{2}$ Not possible

$\sec\alpha = \frac{1}{4}$ Not possible

Cosec y, sec α range $(-\infty, -1] \cup [1, \infty)$

$\cos\delta = 2$ Not possible range   [-1, 1]

S70. Ans.(b)

Sol. let the length be x. y

x + y = 12

2πr + 8r = 12

$r = \frac{6}{\pi+4}$

S71. Ans.(b)

Sol.

For $(x-7)^2 + (y+10)^2 + (z-6)^2 = 0$

x = 7, y = -10, z = 6

∴ x + y + z = 7 – 10 + 6 = 13 – 10 = 3

S72. Ans.(b)

Sol.

$\frac{12x^3}{9ax^2} = \frac{8a^3x}{M}$

$M = \frac{8a^3x \cdot 9ax^2}{12x^3} = 6a^4$

S73. Ans.(c)

Sol.

X	:	Y
$6.5 \times 800 \times \frac{10}{100} \times \frac{5}{8}$	:	$11.5 \times 1000 \times \frac{16}{100} \times \frac{3}{8}$
65	:	138

S74. Ans.(a)

Sol. Total amount earned =

$$\left[\left\{(2.5+3+4) \times 800 \times \frac{10}{100}\right\} + \left\{(4+5+6) \times 1000 \times \frac{16}{100}\right\}\right] \times 100$$

$= [760 + 2400] \times 100$

$= 31,6,000$ Rs.

S75. Ans.(d)

Sol. 100(2.5+3+3.5+5)

=1400

S76. Ans.(a)

S77. Ans.(c)
Sol. The use of preposition is not correct here. **Beside** means at the side of; next to while **besides** means in addition to. Here, the given sentence is trying to convey that the person has cleared India's toughest exam as well as he has got a scholarship to pursue higher studies from Oxford University. So, we need to replace preposition "**beside**" with "**besides**".

S78. Ans.(b)
Sol. The word can be spelt correctly as "**Receive**" which means be given, presented with, or paid (something).
Meaning of other words which are correctly spelt:
Believe: accept that (something) is true, especially without proof.
Relieve: cause (pain, distress, or difficulty) to become less severe or serious.
Conceive: create (an embryo) by fertilizing an egg.

S79. Ans.(c)
Sol. Curiosity killed the cat means inquisitiveness can be dangerous, especially when it extends to things one does not need to know about.

S80. Ans.(d)
Sol. Vilify: speak or write about in an abusively disparaging manner.
Crucify: put (someone) to death by nailing or binding them to a cross, especially as an ancient punishment.
Dignify: make (something) seem worthy and impressive.
Basify: to convert into a base or make alkaline.

S81. Ans.(a)
Sol. By is used with the doer or agent, while **with** is used before the instrument with which a person does a thing. Hence, "by" should be replaced with "with" to make the sentence grammatically correct.

S82. Ans.(b)
Sol. We do not use any article after **what kind of** and **what sort of**. Hence, we need to remove the article "a" used in the sentence and therefore, option(b) correctly improves the given sentence.

S83. Ans.(c)
Sol. Give up: cease making an effort; admit defeat.
Give away: a thing that is given free, often for promotional purposes.
Give out: be completely used up.
Put out: upset or annoy someone.
Hence, only option(c) gives the correct meaning to the sentence.

S84. Ans.(a)
Sol. Endowment: an income or form of property given or bequeathed to someone.
Disinherit: change one's will or take other steps to prevent (someone) from inheriting one's property.
Hence, "disinherit" is the correct antonym of the given word.
Bequest: the action of bequeathing something.
Shun: persistently avoid, ignore, or reject (someone or something) through antipathy or caution.

S85. Ans.(c)
Sol. Encumbrance: an impediment or burden.
Impediment: a hindrance or obstruction in doing something. So, it is the correct synonym.
Meaning of other words:
Incentive: a thing that motivates or encourages someone to do something.
Stimulant: something that increases activity, interest, or enthusiasm in a specified field.
Inducement: a thing that persuades or leads someone to do something.
All these are antonyms of the given word.

S86. Ans.(d)
Sol. Agreeing (gerund of 'agree'): say that one will do something which has been suggested by another person.
Since the decision has already been made by the Supreme Court therefore, options (a), (b) & (c) cannot be the correct choice.

S87. Ans.(b)
Sol. Inflated: excessively or unreasonably high.
Minimal: of a minimum amount, quantity, or degree; **negligible**.
Avoidable: able to be avoided or prevented.
As we know, 46% of MPs have criminal records which is quite high a number therefore, option (b) gives the correct sense to the sentence.

S88. Ans.(a)
Sol. Charged with is the correct idiom which means accused of a crime.

S89. Ans.(d)
Sol. Predecessor: a person who held a job or office before the current holder.
Ancestor: a person, typically one more remote than a grandparent, from whom one is descended.
Successor: a person or thing that succeeds another.
Predator: an animal that naturally preys on others.

S90. Ans.(c)
Sol. Despite: without being affected by; **in spite of**.
Instead: as an alternative or substitute.
There are no terms such as 'in spite', 'despite of'.

S91. Ans.(c)
Sol. Deride: express contempt for; ridicule.
Jeer: a rude and mocking remark.
Stimulate, **Comfort** and **Inspire**, all are antonyms of the given word.

S92. Ans.(b)
S93. Ans.(a)
S94. Ans.(d)

S95. Ans.(b)
Sol. Correctly spelt word is "**Tapestry**" which means a piece of thick textile fabric with pictures or designs formed by weaving colored weft threads or by embroidering on canvas, used as a wall hanging or soft furnishing.
It is used in reference to an intricate or complex sequence of events.

S96. Ans.(d)
Sol. Every cloud has a silver lining: every negative situation has the potential to result in or produce something positive or beneficial.

S97. Ans.(d)
Sol. The given sentence is grammatically correct and hence needs no improvement.

S98. Ans.(a)
Sol. Continuance: the state of remaining in existence or operation.
Abandonment: the action or fact of abandoning or being abandoned; desertion.
Termination: the action of terminating something or the fact of being terminated; ending.
Dominance: power and influence over others.
Option(a) is the correct choice here.

S99. Ans.(c)
Sol. Commotion: a state of confused and noisy disturbance. Maelstrom, Ruction and Kerfuffle are its synonyms.
Tranquility: the quality or state of being tranquil; calm.
Hence, option(c) is the correct antonym of the given word.

S100. Ans.(c)
Sol. Triennial: recurring every three years.
Tricentennial: the three-hundredth anniversary of a significant event; a **tercentenary**.
Sesquicentennial: 150th anniversary.
Hence, option(c) is the only correct answer.