1. Select the related word/letters/ number from the given alternatives.
Red : Colour :: French : ?
A. foreign
B. language
C. European
D. Country

Ans. B.
Red is a colour and French is a language.
2. Select the related word/letters/
number from the given alternatives.
Chips : Potatoes :: Soda : ?
A. Fizz
B. Bottle
C. Lemon
D. Water

Ans. D.
Chips are made of potatoes
Similarly
Soda is made of water.
3. Select the related word/letters/
number from the given alternatives.
Quadrilateral : Four :: ?
A. Cylinder : Circle
B. Cube : Square
C. Triangle : 180
D. Hexagon : Six

Ans. D.
Quadrilateral has four sides
Similarly
Hexagon has six sides.
4. Select the related word/letters/
number from the given alternatives.
FGI : HIK : : STV : ?
A. UVW
B. VWY
C. $X Y Z$
D. UVX

Ans. D.
$\mathrm{F}+2=\mathrm{H}, \quad \mathrm{G}+2=\mathrm{I}, \quad \mathrm{I}+2=\mathrm{K}$
Similarly
$\mathrm{S}+2=\mathrm{U}, \quad \mathrm{T}+2=\mathrm{V}, \quad \mathrm{V}+2=\mathrm{X}$.
5. Select the related word/letters/ number from the given alternatives.
Dream : Area :: Frame : ?
A. Farmer
B. Ear
C. Fare
D. Freer

Ans. C.
Mind Letter count of words

| Dream | $:$ | Area | $::$ | Frame | $:$ | Fare |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| 5 | $:$ | 4 | $::$ | 5 | $:$ | 4 |

6. Select the related word/letters/ number from the given alternatives. Brine : Inert :: Beware : ?
A. Arenas
B. Declare
C. Spare
D. Area

Ans. A.

| brINE | $:$ | INErt | $::$ | bewARE | $:$ | AREnas |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| 5 | $:$ | 5 | $::$ | 6 | $:$ | 6 |

7. Select the related word/letters/ number from the given alternatives. 169 : 13 :: 225 : ?
A. 22
B. 25
C. 20
D. 15

Ans. D.
$13^{2}=169$
Similarly
$15^{2}=225$.
8. Select the related word/letters/
number from the given alternatives.
159 : 840 :: 345 : ?
A. 654
B. 765
C. 876
D. 987

Ans. A.
$159+840=999$
Similarly,
$345+654=999$.
9. Select the related word/letters/ number from the given alternatives.
761 : 928 :: 651: ?
A. 765
B. 753
C. 807
D. 951

Ans. C.
$761=76-1=75$,
$928=92-8=84$,
Now
$84-75=9$
Similarly,
$651=65-1=64$,
$807=80-7=73$,
$73-64=9$.
10. Select the odd word/letters/
number/word pair/number pair from the given alternatives.
A. kilometres
B. feet
C. grams
D. micrometers

Ans. C.
Each word is a unit of length
But gram is a unit of weight.
11. Select the odd word/letters/ number/word pair/number pair from the given alternatives.
A. pros and cons
B. dead or alive
C. null and void
D. sooner or later

Ans. C.
In every pair there are antonyms of one another,
But in case of null and void these two are synonyms.
12. Select the odd word/letters/
number/word pair/number pair from the given alternatives.
A. Crayon and Marker
B. Pen and Eraser
C. Book and Diary
D. Pen and Marker

Ans. C.

Except Book and Diary every pair is used to write or erase anything,
But Books and Diary are objects on which we write.
13. Select the odd word/letters/ number/word pair/number pair from the given alternatives.
A. OU
B. YC
C. IA
D. EO

Ans. B.
Every pair has vowels but option $B$ does not has any.
14. Select the odd word/letters/ number/word pair/number pair from the given alternatives.
A. Cuisine
B. Business
C. Disinterested
D. Noisiness

Ans. B.
Except Business all of others are necessity and interests of a person like food, dislikes.
But Business is an earning source.
15. Select the odd word/letters/ number/word pair/number pair from the given alternatives.
A. DRGK
B. WMUI
C. OHAU
D. XHTV

Ans. A.
Every word has symmetrical letters
But in DRGK no letter is symmetrical like

| $W=W$, | $M=M$, | $U=U$, |
| :--- | :--- | :--- |
| $O=O$, | $H=H$, | $A=A$, |
| $X=X$, | $T=T$, | $V=V$, |

16. Select the odd word/letters/ number/word pair/number pair from the given alternatives.
A. 7531
B. 2468
C. 9753
D. 8642

Ans. B.
Every number is in decreasing order like
7, 5, 3, 1,
9, 7, 5, 3,
8, 6, 4, 2
But 2468 is in increasing order like
2,4,6,8
17. Select the odd word/letters/ number/word pair/number pair from the given alternatives.
A. 15
B. 25
C. 53
D. 45

Ans. C.
Each number is divisible but 53 is a no divisible number.
18. Select the odd word/letters/ number/word pair/number pair from the given alternatives.
A. 108,132
B. 114,156
C. 136,152
D. 120,138

Ans. C.
$132-108=24$
$156-114=42$
$138-120=18$
The difference of every pair is divisible by 3
But in case of $152-136=16$ is divisible by 3.
19. In the given series one word/one term/one number is missing. Select the correct alternative from the given ones that will complete the series.
Cremation, Accolade, Maestro, Chrome,?
A. Very
B. Zebra
C. Virtual
D. Time

Ans. B.
Letter count decrease by 1 in every
successive word
Cremation = 9,
Accolade $=8$,
Maestro = 7,
Chrome = 6,
And so
Zebra $=5$.
20. In the given series one word/one term/one number is missing. Select the correct alternative from the given ones that will complete the series.
Toxic, Icon, Onto, Tomorrow,?
A. Owl
B. Wet
C. Rat
D. Borrow

Ans. A.
toxIC - ICon
icON - ONto
onTO - TOmorrow
tomorrOW - OWI.
21. In the given series one word/one term/one number is missing. Select the correct alternative from the given ones that will complete the series.
age, dire, genre, stumpy, ?
A. splayed
B. secretes
C. preacher
D. shooed

Ans. A.
Letter count increase by 1 in every
successive word
Age = 3,
Dire $=4$,
Genre = 5,
Stumpy = 6,
Therefore, Splayed $=7$.
22. In the given series one word/one term/one number is missing. Select the correct alternative from the given ones that will complete the series.
L, J, H, F, ?
A. E
B. G
C. D
D. I

Ans. C.
$\mathrm{L}-2=\mathrm{J}$
$\mathrm{J}-2=\mathrm{H}$
$\mathrm{H}-2=\mathrm{F}$
$\mathrm{F}-2=\mathrm{D}$.
23. In the given series one word/one term/one number is missing. Select the correct alternative from the given ones that will complete the series.
eca, fdb, gec, hfd, ?
A. ige
B. ieg
C. gei
D. egi

Ans. A.
eca $+111=f d b$
$\mathrm{fdb}+111=\mathrm{gec}$
gec $+111=$ hfd
Similarly,
hfd $+111=$ ige.
24. In the given series one word/one term/one number is missing. Select the correct alternative from the given ones that will complete the series.
XXXXOXO, XXXXOOX, XXXXOOX, XXXOXOX, ?
A. XOXXOXX
B. XXXXOXO
C. XXXXOOX
D. XXOXXOX

Ans. D.
XXXXOXO, XXXXOOX, XXXXOOX, XXXOXOX,
In the series letter $O$ is shifting its position by a step to left,
So following the order next term should be XXOXXOX.
25. In the given series one word/one term/one number is missing. Select the correct alternative from the given ones that will complete the series.
$-2,1,5$, ?, 16
A. 9
B. 10
C. 11
D. 13

Ans. B.
$-2+3=1$
$1+4=5$
$5+5=10$
$10+6=16$.
26. In the given series one word/one term/one number is missing. Select the correct alternative from the given ones that will complete the series.
$-10 / 3, ?,-2 / 3,2 / 3,2$
A. -2
B. 2
C. $-1 / 3$
D. $1 / 3$

Ans. A.
$-10 / 3+4 / 3=-6 / 3=-2$
$-2+4 / 3=-2 / 3$
$-2 / 3+4 / 3=2 / 3$.
27. In the given series one word/one term/one number is missing. Select the correct alternative from the given ones that will complete the series.
23, 29, ?, 37, 41
A. 30
B. 33
C. 31
D. 35

Ans. C.
$23+(2+4)=29$
$29+(6-4)=31$
$31+(2+4)=37$
28. If $\mathrm{a}<\mathrm{b}, \mathrm{d}>\mathrm{c}$ and $\mathrm{a}<\mathrm{d}$, which of the following is true?
I. b < c
II. $\mathrm{c}>\mathrm{a}$
A. Only I
B. Neither I nor II
C. Only II
D. Both I and II

Ans. B.
ATQ
a < b , d and d>a, c
There is no relation for $b$ is to $c$ or $c$ is to a
so neither I nor II
29. The weights of five boxes are 10,30 ,

40, $70 \& 70$ kilograms. Which of the following cannot be the total weight (in kilograms) of any combination of these boxes?
A. 190
B. 180
C. 210
D. 200

Ans. D.
$190=70+70+40+10$
$180=70+70+40$
$210==70+70+40+30$
But we can not measure 200 by adding above weights.
30. If the letters $\mathrm{Q}, \mathrm{B}, \mathrm{T}, \mathrm{A}, \mathrm{U}, \mathrm{E} \& \mathrm{~N}$ are numbered 1, 2, 3, 4, 5, 6 \& 7
respectively. Select that combination of numbers so that letters arranged
accordingly, form a meaningful word.
A. 5617312
B. 5447134
C. 2471563
D. 3242637

Ans. C.
BANQUET = 2471563
Banquet means a dinner party.
31. If PROXIMAL is coded as KILCRNZO, then how will WHY be coded as?
A. DSB
B. EDC
C. CDE
D. BNM

Ans. A.

| $27-\mathrm{P}=\mathrm{K}$, | $27-\mathrm{R}=\mathrm{I}$, | $27-\mathrm{O}=\mathrm{L}$, | $27-\mathrm{X}=\mathrm{C}$ |
| :--- | :--- | :--- | :--- |
| $27-\mathrm{I}=\mathrm{R}$, | $27-\mathrm{M}=\mathrm{N}$, | $27-\mathrm{A}=\mathrm{Z}$, | $27-\mathrm{L}=\mathrm{O}$ |
| Similarly |  |  |  |
| $27-\mathrm{W}=\mathrm{D}$, | $27-\mathrm{H}=\mathrm{S}$, | $27-\mathrm{Y}=\mathrm{B}$. |  |

32. In a certain code language, 531 means 'boy is shy', 346 means 'girl is bold', 256 means 'shy or bold'. Find the code for 'or'.
A. 1
B. 2
C. 3
D. 5

Ans. B.
531 means 'boy is shy',
346 means 'girl is bold',
256 means 'shy or bold'
By intersecting
3 = is, $6=$ bold, $\quad 5=$ shy
And then $2=$ or.
33. In a certain code language, ' + ' represents 'x', '-' represents '+', 'x' represents ' $\div$ ' and ' $\div$ ' represents ' - '. Find out the answer to the following question.
$0.1+500-240 \times 6=$ ?
A. 90
B. 10
C. 1.25
D. 108

Ans. A.
$0.13500+240 \div 6$
$=50+40=90$.
34. If $A$ @ $B$ means $A$ is father of $B, A$ \# $B$ means $A$ is sister of $B$ and $A!B$ means $A$ is son of $B$, then what does $E$ @ $F$ ! G \# H mean, if H is a male?
A. H is brother of E
B. H is father of E
C. H is son of E
D. H is E's wife's brother

Ans. D.
$E @ F=E$ is father of $F$
$F!G=F$ is son of $G$
$\mathrm{G} \# \mathrm{H}=\mathrm{G}$ is sister of H
E @ F! G \# H = H is E's wife's brother.
35. If 45 @ $23=14,76 @ 22=17$,
then find the value of $55 @ 10=$ ?
A. 8
B. 11
C. 15
D. 5

Ans. B.
$45 @ 23=(4+2)+(5+3)=14$,
76 @ $22=(7+2)+(6+2)=17$
Similarly:
$55 @ 10=(5+1)+(5+0)=11$.
36. Which of the following words follow the trend of the given list?
Zonal, Tzars, Wizen, Seize, Waltz, ?
A. Unitize
B. Ablaze
C. Azure
D. Sanza

Ans. A
The position of $z$ is increasing by 1 in every next word
Zonal, Tzars, Wizen, Seize, Waltz
$1^{\text {st }} \quad 2^{\text {nd }} \quad 3^{\text {rd }} \quad 4^{\text {th }} \quad 5^{\text {th }}$

So, here is $6^{\text {th }}$ position of $z$ in Unitize.
37. Which of the following terms follows the trend of the given list?
$A B C, B C A B, C A B C A$, $\qquad$ _.
A. BCABCA
B. CABCAB
C. ABCCBA
D. $A B C A B C$

Ans. D.
In the series first letter shift to last with the increment of a letter loop of ABC So the next word in series will be ABCABC.
38. A girl walks 3 km East starting from her home. She then turns South and walks 2 km , then she turns West and walks 7 km , then she turns to her right and walks 2 km . Where is she now from her starting position?
A. 10 km to the West from her home.
B. 4 km to the East from her home.
C. 10 km to the East from her home.
D. 4 km to the West from her home.

Ans. D.


4 km to the West from her home.
39. A is standing 6 m to the East of B. A walks 9 m South, then turns to his right and walks 7 m . At the same time, B has walked 3 m West, then he turned South and walked 9 m , then he turned to his left and walked 5 m . Where is B now with respect to the position of $A$ ?
A. B is 12 m to the East of A
B. B is 3 m to the West of $A$
C. B is 3 m to the East of $A$
D. B is 12 m to the West of $A$

Ans. C.

$B$ is 3 m to the East of $A$.
40. In the question two statements are given, followed by two conclusions, I and II. You have to consider the statements to be true even if it seems to be at variance from commonly known facts. You have to decide which of the given conclusions, if any, follows from the mentioned statements.
Statement 1: All huts are made of mud.
Statement 2: Things made of mud are not strong.
Conclusion I: All huts are strong.
Conclusion II: Mud huts are not strong.
A. Only conclusion I follows
B. Either I or II follows
C. Neither I nor II follows
D. Only conclusion II follows

Ans. D.
All huts are made of mud Things made of mud are not strong Means all huts made of mud are not strong.
41. In the question a statement is given, followed by two arguments, I and II. You have to consider the statement to be true even if it seems to be at variance from commonly known facts. You have to decide which of the given arguments, if any, is a strong argument.
Statement : Should teachers be permitted to cane unruly children?
Argument I : No, this will teach them that physical violence is an acceptable means of social behaviour.
Argument II : Yes, children taught in a strict atmosphere are more successful.
A. only argument II is strong
B. neither argument I nor II is strong
C. both argument I and II are strong
D. only argument I is strong

Ans. D.
Children teach from teachers if the do such kind of violence this will make children think that violence is no bad. So only argument I is strong.
42. Which of the following cube in the answer figure cannot be made based on the unfolded cube in the question figure?

A.

B.

C.

D.


Ans. B.


For given exposed figure of dice, Option B will be the appropriate answer. 43. Which of the following answer figure patterns can be combined to make the question figure?

A.

B.

C.


Ans. A.

44. Which of the following diagrams represent the relationship between Engineers, Software Engineers and chemical Engineers?
A.

B.

C.

D.


Ans. A.


Engineering is a work field where Software Engg. and Chemical Engg. are its two different branches.
45. In the following figure, square represents Engineers, triangle represents environmentalists, circle represents lawyers and rectangle represents government officers. Which set of letters represents lawyers who are not environmentalists and government officers who are engineers?

A. $E, F$ and $B$
B. A, E and F
C. B, A and E
D. G, F and A

Ans. D.
Layers who are not environmentalists $=F$ and G
Government officers who are engineers = A
So option D is correct.
46. Which answer figure will complete the pattern in the question figure?

A.

B.

C.

D.


Ans. A.

so Option A is the correct ans.
47. From the given answer figures, select the one in which the question figure is hidden/embedded

A.

C.

B.

D.


Ans. D.

48. A piece of paper is folded and punched as shown below in the question figures. From the given answer figures, indicate how it will appear when opened.


Ans. A.


Option A will be the appropriate answer. 49. If a mirror is placed on the line MN, then which of the answer figures is the right image of the given figure?

A.

B.

C.

D.


Ans. D.


So option D is the right answer.
50. A word is represented by only one set of numbers as given in any one of the alternatives. The sets of numbers given in the alternatives are represented by two classes of alphabets as shown in the given two matrices. The columns and rows of Matrix-I are numbered from 0 to 4 and that of Matrix-II are numbered from 5 to 9 . A letter from these matrices can be represented first by its row and next by its column, for example ' N ' can be represented by 00 , 12 etc and ' $A$ ' can be represented by 95 , 76 etc. Similarly, you have to identify the set for the word "TYRES".

| MATRIX - 1 <br> आव्यूह - I |  |  |  |  |  | MATRIX - II <br> आव्यूह - II |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 0 | 1 | 2 | 3 | 4 |  | 5 | 6 | 7 | 8 | 9 |
| 0 | N | V | P | R | W | 5 | J | 1 | C | E | 1 |
| 1 | X | T | N | $Y$ | v | 6 | G | G | A | L | 1 |
| 2 | z | p | S | X | Q | 7 | F | C | 1 | K | D |
| 3 | U | $z$ | X | W | U | 8 | E | M | K | J | H |
| 4 | Y | $\gamma$ | R | N | R | 9 | C | 1 | E | A | E |

A. $21,40,04,69,01$
B. $12,13,41,55,69$
C. $11,41,44,85,22$
D. $31,01,65,58,41$

Ans. C.
$\mathrm{T}=11$,
$Y=40,41$,
$\mathrm{R}=44$, 42
E=85, 58
$S=22$
TYRES = 11, 41, 44, 85, 22.
51. Which of the following is not a part of the human stomach?
A. cardiac
B. caecum
C. fundic
D. pyloric

Ans. B.
caecum is not a part of the human stomach. the cecum or caecum is an intraperitoneal pouch that is considered to be the beginning of the large intestine. It is typically located on the right side of the body (the same side of the body as the appendix, to which it is joined).
52. Which of the following white blood cells is a type of agranulocytes?
A. neutrophils
B. eosinophils
C. Iymphocytes
D. basophils

Ans. C.
lymphocytes is a type of agranulocytes. Lymphocytes are one of several different types of white blood cells. Each type of white blood cell has a specific function, and they all work together to fight illness and disease. White blood cells are an important part of your immune system. They help your body fight antigens, which are bacteria, viruses, and other toxins that make you sick.
53. Which of the following is an insectivorous plant?
A. Pitcher
B. Alstonia
C. Calotropis
D. Eichhornia

Ans. A.
Pitcher an insectivorous plant. Pitcher plants are several different carnivorous plants which have modified leaves known as pitfall traps-a prey-trapping mechanism featuring a deep cavity filled with digestive fluid liquid. The traps of what are considered to be "true" pitcher plants are created from modified leaves. 54. Which of the following represents the correct pathway of water movement in the root?
A. Epidermis > Endodermis > Cortex $>$ Pericycle > Xylem
B. Epidermis > Pericycle > Endodermis
> Cortex > Xylem
C. Epidermis > Cortex $>$ Endodermis $>$

Pericycle > Xylem
D. Epidermis > Pericycle > Cortex $>$

Endodermis > Xylem
Ans. C.
Epidermis > Cortex > Endodermis > Pericycle > Xylem


The major path for water movement into plants is from soil to roots. Water enters near the tip of a growing root, the same region where root hairs grow. The surface of the root hairs needs to be in close contact with the soil to access soil water. Water diffuses into the root, where it can take at least three different pathways to eventually reach the xylem, the conduit located at the interior of the root that carries the soil water to the leaves.
55. Consider the following pairs.

Name : Formula
1] 2 - Bromopropane :
(CH3) $2 \mathrm{C}=\mathrm{CHCOCH} 3$
2] Propan-1-amine : $\mathrm{CH} 3-\mathrm{CH} 2-\mathrm{CH} 2-$ NH2
3] Dichloromethane : CH 2 Cl 2
4] 4-Methylpent-3-en-2-one : CH3-
$\mathrm{CHBr}-\mathrm{CH} 3$
Which of the above pairs are correctly matched?
A. 1 and 4 only
B. 3 and 4 only
C. 2 and 3 only
D. 2, 3 and 4 only

Ans. C.
the correct formulas are given below:
2 - Bromopropane - CH 3 CHBrCH 3
Propan-1-amine - $\mathrm{C}_{3} \mathrm{H}_{8} \mathrm{~N}$
Dichloromethane : CH 2 Cl 2
4-Methylpent-3-en-2-one : $\mathrm{CH} 3-\mathrm{CHBr}$ CH3
56. What is the IUPAC name of Allyl bromide?
A. Dichloromethane
B. Tetrachloromethane
C. 2-Chlorobutane
D. 3-Bromopropene

Ans. D.
the IUPAC name of Allyl bromide is 3-
Bromopropene.the chemical formula of allyl bromide is $\mathrm{C}_{3} \mathrm{H}_{5} \mathrm{Br}$. Allyl bromide is an alkylating agent used in synthesis of polymers, pharmaceuticals, allyls and other organic compounds. Physically,
allyl bromideis a clear liquid with an intense, acrid, and persistent smell. 57. Formula for Hexamethylene diamine is
A. $\mathrm{NH}_{2}\left(\mathrm{CH}_{2}\right)_{4} \mathrm{NH}_{2}$
B. $\mathrm{NH}_{2}\left(\mathrm{CH}_{2}\right)_{6} \mathrm{NH}_{2}$
C. $\mathrm{NH}_{2}\left(\mathrm{CH}_{2}\right)_{3} \mathrm{NH}_{2}$
D. $\mathrm{NH}_{2}\left(\mathrm{CH}_{2}\right)_{2} \mathrm{NH}_{2}$

Ans. B.
Formula for Hexamethylene diamine is $\mathrm{NH}_{2}\left(\mathrm{CH}_{2}\right)_{6} \mathrm{NH}_{2}$. The molecule is a diamine, consisting of a hexamethylene hydrocarbon chain terminated with amine functional groups. The colorless solid has a strong amine odor, resemblant of semen. About 1 billion kilograms are produced annually.
58. Which of the following elements is the most electronegative?
A. Aluminium
B. Boron
C. Gallium
D. Thallium

Ans. B.
boron is the most electronegative.
Boron is a chemical element with
symbol B and atomic number 5. Produced entirely by cosmic ray
spallation and supernovae and not by stellar nucleosynthesis, it is a lowabundance element in the Solar system and in the Earth's crust.
59. Which HTML tag is used to make a text bold?
A. <body>
B. $<b>$
C. $<b r>$
D. None of these

Ans. B.
The HTML <b> tag is used for specifying bold text. The intention with this tag is to markup text as bold without conveying any extra importance. For example, this could be useful in article abstracts, where the beginning of an article is set in bold text.
60. To easily access commonly used commands and tools in a word processor use the $\qquad$ bar.
A. Home
B. Title
C. Menu
D. Tool

Ans. D.
To easily access commonly used commands and tools in a word processor use the Toolbar. The icons on the toolbars are organized according to function and according to the most commonly used commands in MSWord.
The toolbar that usually appears directly below the menu bar is called theStandard Toolbar. The toolbar just below that is called the Formatting Toolbar.
61. Hareli is the harvest festival of which state?
A. Assam
B. Andhra Pradesh
C. Himachal Pradesh
D. Chhattisgarh

Ans. D.
Hareli is the harvest festival of Chhattisgarh. The Hareli festival is one of the popular festivals of Chhattisgarh. The festival is celebrated with great pomp and show. The word 'Hareli' is derived from the Hindi word 'Haryali' meaning greenery. It is mainly a festival celebrated by the various communities of farmer in the month of Shravan.
62. October 2016, who was sacked as the Chairman of the Tata Sons?
A. Ratan Tata
B. Narayan Murthy
C. Cyrus Mistry
D. Vishal Sikka

Ans. C.
In October 2016 Cyrus mistry was
sacked as the Chairman of the Tata
Sons. Tata Sons is the promoter of the
major operating Tata companies and holds significant shareholdings in these companies. Tata companies are commonly referred to as the Tata group and the Chairman of Tata Sons as Chairman of the Tata group.
63. Which of the following scientists demonstrated that fermentation is caused by the growth of microorganisms?
A. Edmund Becquerel
B. Dmitri Mendeleev
C. Louis Pasteur
D. Joseph Priestley

Ans. C.
Louis Pasteur demonstrated that fermentation is caused by the growth of micro-organisms. Louis Pasteur was a French biologist, microbiologist and chemist renowned for his discoveries of the principles of vaccination, microbial fermentation and pasteurization. He is remembered for his remarkable breakthroughs in the causes and prevention of diseases, and his discoveries have saved many lives ever since.
64. The line consisting of all the bundles which cost exactly equal to the consumer's income is called the $\qquad$ line.
A. demand
B. utility
C. budget
D. indifference

Ans. C.
The line consisting of all the bundles which cost exactly equal to the consumer's income is called the budget line. A budget constraint represents all the combinations of goods and services that a consumer may purchase given current prices within his or her given income. Consumer theory uses the concepts of a budget constraint and a preference map to analyze consumer choices.
65. The area under the short run cost curve up to any level of output gives us the total variable cost up to that level.
A. average
B. marginal
C. total
D. variable

Ans. B.
The area under the short run marginal cost curve up to any level of output gives us the total variable cost up to that level. The average fixed cost (AFC) curve will decline as additional units are
produced, and continue to decline. The average total cost (ATC) curve initially will decline as fixed costs are spread over a larger number of units, but will go up as marginal costs increase due to the law of diminishing returns.
66. If price of an article decreases from Rs 60 to Rs 50, when quantity demanded increases from 1,000 units to 1,200 units. Find point elasticity of demand.
A. 1
B. -1.2
C. -1
D. 1.2

Ans. C.
Original quantity $=1000$ units, new
quantity $\mathrm{Q}_{1}=1200, \Delta \mathrm{Q}=200$
Original price $(P)=60$, New Price $\left(P_{1}\right)=$ $50, \Delta P=-10$, $E D$ (elasticity of demand) = ?
Price ED (elasticity of demand) $=\frac{\Delta Q}{\Delta P} \times \frac{P}{Q_{1}}$ $=\frac{200}{-10} \times \frac{60}{1200}=-1$
67. Which ratio is the proportion of the total deposits commercial banks keep as reserves?
A. Cash Reserve
B. currency deposit
C. Reserve deposit
D. Statutory Liquidity

Ans. C.
Reserve deposit is the proportion of the total deposits commercial banks keep as reserves. Bank reserves are a commercial banks' holdings of deposits in accounts with a central bank (for instance the European Central Bank or the applicable branch bank of the Federal Reserve System, in the latter case including federal funds), plus currency that is physically held in the bank's vault ("vault cash").
68. Gross Domestic Product + Net factor income from abroad $=$
A. Personal income
B. Personal Disposable Income
C. Gross National Product
D. Net National Product at factor cost Ans. C.
Gross National Product $=$ Gross
Domestic Product + Net factor income from abroad
Gross national product (GNP) is an estimate of total value of all the final products and services produced in a given period by the means of production owned by a country's residents. GNP is commonly calculated by taking the sum
of personal consumption expenditures, private domestic investment, government expenditure, net exports, and any income earned by residents from overseas investments, minus income earned within the domestic economy by foreign residents. Net exports represent the difference between what a country exports minus any imports of goods and services. 69. Which of the following metals is not used as a catalyst in catalytic converts fitted in automobiles?
A. Platinum
B. Polonium
C. Rhodium
D. Palladium

Ans. B.
Polonium is not used as a catalyst in catalytic converts fitted in automobiles. Catalytic converters are recommended for vehicles. These converters have expensive metals namely platinum, palladium and rhodium as the catalysts are fitted into automobiles for the reduction of emission of poisonous gases.
70. Bio-magnification is well established for which of the following pollutants?
A. zinc
B. mercury
C. copper
D. nickel

Ans. B.
Bio-magnification is well established for which of the following Mercury.
Biomagnification, also known as bio amplification or biological magnification, is the increasing concentration of a substance, such as a toxic chemical, in the tissues of organisms at successively higher levels in a food chain.
71. All changes in climate and weather take place in which layer of the atmosphere?
A. Stratosphere
B. Mesosphere
C. Thermosphere
D. Troposphere

Ans. D.
All changes in climate and weather take place in troposphere. The troposphere is the lowest layer of Earth's atmosphere, and is also where nearly all weather conditions take place. It contains approximately $75 \%$ of the atmosphere's mass and $99 \%$ of the total mass of water vapor and aerosols.
72. Which type of electromagnetic radiation converts oxygen into ozone?
A. Gamma rays
B. Cosmic rays
C. Infra-red rays
D. Ultra-violet rays

Ans. D.

Ultra-violet rays converts oxygen into ozone. Ultraviolet is an electromagnetic radiation with a wavelength from 10 nm to 400 nm , shorter than that of visible light but longer than X-rays. UV radiation constitutes about $10 \%$ of the total light output of the Sun, and is thus present in sunlight.
73. Jan Koum is the cofounder of which startup?
A. Microsoft
B. Google
C. Facebook
D. WhatsApp

Ans. D.
Jan Koum is the cofounder of WhatsApp. Jan Koum is a Ukrainian-American internet inventor and computer programmer. He is the CEO and cofounder of WhatsApp, a mobile messaging application which was acquired by Facebook Inc.
74. With reference to the interior of the earth consider the following statements. 1] Body waves are generated due to the release of energy at the focus.
2] The denser the material, the lower is the velocity of the Earthquake waves.
3] There are two types of body waves. They are called $P$ and $S$-waves.
Which of the statements given above is / are correct?
A. 1 and 2 only
B. 2 and 3 only
C. 3 only
D. 1 and 3 only

Ans. D.
Body waves are generated due to the release of energy at the focus. There are two types of body waves. They are called P and S -waves.
75. Which of the following is a major tectonic plate?
A. Cocos plate
B. Arabian plate
C. Pacific plate
D. Nazca plate

Ans. C.
Pacific plate is a major tectonic plate.
The Pacific Plate is an oceanic tectonic plate that lies beneath the Pacific Ocean. At 103 million square kilometres, it is the largest tectonic plate.
76. The mean distance between the Sun and the Earth is approximately $\qquad$ .
A. 99.6 Million Km
B. 49.6 Million Km
C. 149.6 Million Km
D. 199.6 Million Km

Ans. C.
The mean distance between the Sun and the Earth is approximately 149.6 Million Km.
77. The process by which soil deposits through compaction turn into rocks is called $\qquad$ —.
A. lithification
B. Metamorphication
C. Slatification
D. Petrification

Ans. A.
The process by which soil deposits through compaction turn into rocks is called lithification.Lithification (from the Ancient Greek word lithos meaning 'rock' and the Latin-derived suffix-ific) is the process in which sediments compact under pressure, expel connate fluids, and gradually become solid rock.
Essentially, lithification is a process of porosity destruction through compaction and cementation.
78. The Rabi cropping season is from
$\qquad$
A. April - June
B. June - September
C. May - August
D. October - March

Ans. D.
The Rabi cropping season is from October - March. The agricultural crop year in India is from July to June. The Indian cropping season is classified into two main seasons-(i) Kharif and (ii) Rabi based on the monsoon. The kharif cropping season is from July -October during the south-west monsoon and the Rabi cropping season is from OctoberMarch.
79. With reference to India's freedom struggle consider the following statements.
1] Gandhiji's first major public appearance was at the opening of the Banaras Hindu University (BHU) in February 1916.
2] During the Great War of 1914-18, the French had instituted censorship of the press and permitted detention without trial.
3] Jallianwala Bagh massacre took place in Amritsar in April 1919.
Which of the statements given above is / are correct?
A. 1 and 2 only
B. 2 and 3 only
C. 3 only
D. 1 and 3 only

Ans. D.
Gandhiji's first major public appearance was at the opening of the Banaras Hindu University (BHU) in February 1916.

Jallianwala Bagh massacre took place in Amritsar in April 1919.
During the Great War of 1914-18, the
British had instituted censorship of the press and permitted detention without trial.
Hence statement 2 and 3 are true.
80. By the sixth century BC, $\qquad$ had established control over major parts of the Assyrian empire.
A. Iranians
B. Greeks
C. Romans
D. Mongols

Ans. A.
By the sixth century BC,the Iranians had established control over major parts of the Assyrian empire. Assyria was a major Mesopotamian kingdom and empire of the ancient Near East and the Levant. It existed as a state from perhaps as early as the 25th century BC in the form of the Assur city-state, until its lapse between 612 BC and 609 BC , spanning the Early to Middle Bronze Age through to the late Iron Age.
81. Asoka, arguably the most famous ruler of early India, conquered $\qquad$ present-day coastal Orissa.
A. Pataliputra
B. Prayaga
C. Taxila
D. Kalinga

Ans. D.
Asoka, arguably the most famous ruler of early India, conquered Kalinga, present-day coastal Orissa. Kalinga is a historical region of India. It is generally defined as the eastern coastal region between the Mahanadi and the Godavari rivers, although its boundaries have fluctuated with the territory of its rulers. The core territory of Kalinga now encompasses a large part of Odisha and northern part of Andhra Pradesh.
82. Ibn Battuta was a $\qquad$ who wrote about his travels to India in the fourteenth century.
A. Persian
B. Egyptian
C. Turk
D. Moroccan

Ans. D.
Ibn Battuta was a Moroccan who wrote about his travels to India in the fourteenth century. The Moroccan traveler Ibn Battuta is known as the greatest traveller of premodern times. He lived in the 8th century $\mathrm{H} / 14$ th century CE. the Moroccan wanderer Ibn Battuta spent nearly 30 years traveling some 75000 miles across Africa, the Middle East, India and Southeast Asia.
83. One of the earliest Bhakti movements were led by the Nayanars, who were devotees of $\qquad$ -.
A. Shiva
B. Vishnu
C. Surya
D. Brahma

Ans. A.
One of the earliest Bhakti movements were led by the Nayanars, who were devotees of Shiva. The Nayanars were a group of 63 saints (also saint poets) in the 6th to 8th century who were devoted to the Hindu god Shiva in Tamil Nadu.
84. Phonograph was invented by which scientist?
A. Alexander Graham Bell
B. Thomas Edison
C. Jagadish Chandra Bose
D. George Eastman

Ans. B.
Phonograph was invented by Thomas Edison. The phonograph is a device, invented in 1877, for the mechanical recording and reproduction of sound. In its later forms, it is also called a gramophone (as a trademark since 1887, as a generic name in the UK since 1910), or, since the 1940s, a record player.
85. Consider the following pairs.

Event : Time interval (in Seconds)
1] Period of atomic vibrations : $10^{-15}$
2] Period of radio wave : $10^{-6}$
3] Travel time for light from Sun to Earth : $10^{6}$
4] Revolution period of the moon : $10^{10}$ Which of the above pairs are correctly matched?
A. 1 and 4 only
B. 1 and 2 only
C. 2 and 3 only
D. 2, 3 and 4 only

Ans. B.
86. The correct expression for the time period ( $T$ ) of a particle of mass ( $m$ ) performing Simple Harmonic Motion, where $k$ is a constant, is $\qquad$ _.
A. $\mathrm{T}=2 \pi \sqrt{ }(\mathrm{k} / \mathrm{m})$
B. $\mathrm{T}=2 \pi(\mathrm{~m} / \mathrm{k})^{2}$
C. $\mathrm{T}=2 \pi(\mathrm{k} / \mathrm{m})^{2}$
D. $T=2 \pi \sqrt{ }(\mathrm{~m} / \mathrm{k})$

Ans. D.
The correct expression for the time period ( $T$ ) of a particle of mass (m) performing Simple Harmonic Motion, where $k$ is a constant, is
$\mathrm{T}=2 \pi \sqrt{ }(\mathrm{~m} / \mathrm{k})$
87. Who has a wavelength range of 700 nm to 400 nm ?
A. X-Rays
B. Visible light
C. Microwaves
D. Radio waves

Ans. B.
Visible light has a wavelength range of 700 nm to 400 nm . Electromagnetic
radiation in this range of wavelengths is called visible light or simply light. A typical human eye will respond to wavelengths from about 390 to 700 nm . In terms of frequency, this corresponds to a band in the vicinity of $430-770 \mathrm{THz}$. 88. How far should the object be placed from a concave mirror of focal length 4.8 cm , when the image is to be obtained at a distance of 12 cm from the mirror?
A. 8 cm
B. 10 cm
C. 12 cm
D. 15 cm

Ans. A.
We know the lens formula as

$$
\frac{1}{v}+\frac{1}{u}=\frac{1}{f}
$$

where
$\mathrm{u} \rightarrow$ object distance $=$ ?
$v \rightarrow$ image distance $=12$
$\mathrm{f} \rightarrow$ focal length distance $=4.8 \mathrm{~cm}$
After solving we get.
$\mathrm{u}=8 \mathrm{c} . \mathrm{m}$
89. The Institution of the Speaker and his role of the Indian Constitution are borrowed from the $\qquad$ constitution.
A. British
B. French
C. Irish
D. Canadian

Ans. A.
The Institution of the Speaker and his role of the Indian Constitution are borrowed from the british constitution.many others features are borrowed from british constitution like Nominal Head President (like Queen),Cabinet System of Ministers,Post of PM,Parliamentary Type of Govt,Bicameral Parliament, Lower House more powerful,Council of Ministers responsible to Lower House.
90. Which of the following is a characteristic of a Proportional Representation system?
A. The country is divided into small geographical units called constituencies or districts
B. Candidate who wins the election may not get majority $(50 \%+1)$ votes
C. A party may get more seats than votes in the legislature
D. Every party gets seats in the legislature in proportion to the percentage of votes that it gets Ans. D.
Every party gets seats in the legislature in proportion to the percentage of votes that it gets is a characteristic of a Proportional Representation system. Proportional representation. Proportional representation (PR) characterizes electoral systems by which divisions in an electorate are reflected proportionately in the elected body. If n\% of the electorate support a particular political party, then roughly n\% of seats will be won by that party.
91. Which of the following is false with reference to Presidential type of executive?
A. President is the head of the Government
B. President is head of the state
C. The President is usually directly elected by the people
D. President is accountable to the Legislature
Ans. D.
President is accountable to the Legislature is false since all others given option are true. The President is bound by the constitution to act on the advice of the Prime Minister and Cabinet as long as the advice is not violating the constitution.
92. Which of the following subjects is included in the Concurrent List?
A. Banking
B. Trade Unions
C. Agriculture
D. Police

Ans. B.
Trade Unions is included in the Concurrent List. The Concurrent List or List-III (Seventh Schedule) is a list of 52 items given in the Seventh Schedule to the Constitution of India.It includes the power to be considered by both the central and state government.banking in union list.agricultre and police is in the state list.
93. Independence of Judiciary means all of the following, except $\qquad$ .
A. Executive must not restrain the functioning of the judiciary
B. Legislature should not interfere with the decision of the judiciary.
C. Absence of accountability
D. Judges must be able to perform their functions without fear

Ans. C.
Independence of Judiciary means all of the following, except Absence of accountability. Indian Constitution has given high importance to the Independence of JudiciarySystem. Judicial Independence or Independence of Judiciary refers to an environment where judges are free to make decisions or pass judgment without any pressure from the government or other powerful entities.
94. Jwala Gutta is associated with which sport?
A. Wrestling
B. Boxing
C. Badminton
D. Weight Lifting

Ans. C.
Jwala Gutta is associated with Badminton.she is a left handed badminton player. She is India's most successful doubles specialist, and has won the National Badminton Championships fourteen times. 95. Who wrote the novel "Angels \& Demons"?
A. Dan Brown
B. Jonathan Swift
C. Daniel Defoe
D. William Shakespeare

Ans. A.
"Angels \& Demons" is written y Dan Brown. Angels \& Demons is a 2000 bestselling mystery-thriller novel written by American author Dan Brown and published by Pocket Books and then by Corgi Books.
96. Over two-thirds of all named species on earth are $\qquad$ .
A. Porifera
B. Arthopods
C. Aschelminthes
D. Ctenophora

Ans. B.
Over two-thirds of all named species on earth are arthopods. Arthropods are a phylum within the animal kingdom. They include four classes: Chelicerates (such as spiders, mites, ticks, scorpions, and horseshoe crabs), the extinct Trilobites, Crustaceans (such as lobsters, crabs, and shrimp), and Uniramians (millipedes, centipedes, and the most numerous group of all, the insects).
97. Which type of epithelium is made of a single thin layer of flattened cells with irregular boundaries?
A. cuboidal
B. columnar
C. ciliated
D. squamous
Ans. D.
squamous is made of a single thin layer of flattened cells with irregular boundaries. Squamous cell carcinomas, also known as epidermoid carcinoma are a number of different types of cancer that result from squamous cells. These cells form the surface of the skin lining of hollow organs in the body and line the respiratory and digestive tracts.
98. Which is the longest river bridge in India?
A. Bandra-Worli Sea Link
B. Mahatma Gandhi Setu
C. Vikramshila Setu
D. Vembanad Rail Bridge

Ans. B.
Mahatma Gandhi Setu is the longest river bridge in India. Mahatma Gandhi Setu is a bridge over the river Ganges connecting Patna in the south to Hajipur in the north of Bihar. Its length is 5,750 metres ( $18,860 \mathrm{ft}$ ) and it is the second longest river bridge in India.
99. Which of the following is a famous Classical Indian dancer?
A. Amrita Sher Gil
B. Satish Gujral
C. Sonal Mansingh
D. Bhimsen Joshi

Ans. C.
Sonal Mansingh is a famous Classical Indian dancer. Sonal Mansingh is an Indian classical dancer and Guru Bharatanatyam and Odissi dancing style; who is also proficient in other Indian classical dancing styles.
100. Which of the following is a recipient of the "Ashoka Chakra" award?
A. Abhijeet Gupta
B. Hangpan Dada
C. Akhil Kumar
D. Sunil Chhetri

Ans. B
In the given option only Hangpan Dada a recipient of the "Ashoka Chakra" award. Havildar Hangpan Dada AC was a soldier in the Assam Regiment of the Indian Army. He was posthumously awarded the Ashoka Chakra, India's highest peacetime military decoration in August 2016.

