

## Question Paper Code

CIVIL-CE-1104

Show

## AnswerKey

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## Q.No : 1 - Main Subject

On the front page of the book, 'THE FACE BOOK' is flashed using neon lights. The three words are flashed individually at intervals of 12, 15 and 18 seconds, respectively and each world is put off after a second. What is the least time after which the full name of our book can be read again?

- A)  2 min  
 B)  5 min  
 C)  6 min  
 D)  3 min

Answer: D

## Q.No : 2 - Main Subject

The discharge through the volute siphon is calculated by the following formula. Where, A=Cross sectional area of the Pipe, C=Coefficient of discharge, h=Maximum operating head

- A)   $Q=C.A.\sqrt{gh}$   
 B)   $Q=C.A.\sqrt{2gh}$   
 C)   $Q=C.\sqrt{Agh}$   
 D)   $Q=C.\sqrt{2Agh}$

Answer: B

### Q.No : 3 - Main Subject

California Bearing Ratio (CBR) Test is conducted for evaluating

- A)  Consistency of the sub grade
- B)  Bearing capacity of the sub grade
- C)  Specific gravity of the sub grade
- D)  Stability of the sub grade

Answer: **D**

### Q.No : 4 - Main Subject

If a reinforced cement concrete slab is having effective spans of 2.6m and 5.8m, then it is designed as

- A)  one way slab
- B)  two way slab
- C)  isolated slab
- D)  continuous slab

Answer: **A**

### Q.No : 5 - Main Subject

The quality of sewage water in terms of biochemical oxygen demand (BOD), Chemical Oxygen demand (COD) and theoretical Oxygen demand (TOD) is found to exhibit

- A)   $COD > BOD > TOD$
- B)   $TOD > COD > BOD$
- C)   $TOD > BOD > COD$
- D)   $BOD > COD > TOD$

Answer: **B**

### Q.No : 6 - Main Subject

The foundation to be used to avoid eccentricity of loading with respect to the base when two columns carrying different loads are to be supported, is

- A)  Combined rectangular footing
- B)  Combined square footing
- C)  Combined trapezoidal footing
- D)  Combined circular footing

Answer: **C**

**Q.No : 7 - Main Subject**

Angle of repose for Dry sand in degrees

- A)  25 to 35  
B)  15 to 25  
C)  5 to 15  
D)  35 to 45

Answer: **A**

**Q.No : 8 - Main Subject**

Maximum Erection Tolerances in large panel buildings for the deviation from the design height of the total height of the building is \_\_\_\_\_ mm

- A)  ± 20mm  
B)  ± 30mm  
C)  ± 40mm  
D)  ± 50mm

Answer: **C**

**Q.No : 9 - Main Subject**

When the length of a dam suitable for spillway is limited \_\_\_\_\_ is adopted

- A)  Emergency Spillway  
B)  Shaff Spillway  
C)  Trough Spillway  
D)  Syphon Spillway

Answer: **D**

**Q.No : 10 - Main Subject**

A Hair Pin Bend is a \_\_\_\_\_ centred compound curve

- A)  Four

- B)  Two
- C)  Three
- D)  One

Answer: C

### Q.No : 11 - Main Subject

Which one of the following is an example for igneous rocks?

- A)  Conglomerate
- B)  Arkose
- C)  Syenite
- D)  Schist

Answer: C

### Q.No : 12 - Main Subject

Extra width of gauge for widening on curves is

- A)   $\frac{(B+L)^2 \times 125}{R}$
- B)   $\frac{(B-L)^2 \times 125}{R}$
- C)   $\frac{(R-B)^2 \times 125}{L}$
- D)   $\frac{(R+B)^2}{L} \times 125$  where B = Rigid wheel base in m, L=Lap of flange in m.

Answer: A

### Q.No : 13 - Main Subject

Standard deviation ( $\sigma$ ) is

- A)   $\frac{tp - to}{6}$
- B)   $\frac{tp + to}{6}$
- C)   $\frac{to - tp}{6}$

D)   $\frac{t_o^2 + t_p}{6}$  (Where,  $t_p$ =Pessimistic Time Estimate  $t_o$ =Optimistic Time Estimate)

Answer: A

### Q.No : 14 - Main Subject

The general form of Poisson's equation in partial derivatives is

A)   $\frac{\partial^2 u}{\partial x^2} + \frac{\partial^2 u}{\partial y^2} = f(x, y)$

B)   $\frac{\partial^2 y}{\partial x^2} + \frac{\partial^2 y}{\partial y^2} = f(x, y)$

C)   $\frac{\partial^2 x}{\partial x^2} + \frac{\partial^2 y}{\partial y^2} = f(x, y)$

D)   $\frac{\partial^2 y}{\partial x^2} + \frac{\partial^2 x}{\partial y^2} = f(x, y)$

Answer: A

### Q.No : 15 - Main Subject

When a vehicle traverses a horizontal curve, the horizontal force acting outwards through the centre of gravity of the vehicle is called

A)  Eccentric force

B)  Centripetal force

C)  Centrifugal force

D)  Restoring force

Answer: C

### Q.No : 16 - Main Subject

The value of illumination prescribed for difficult and critical seeing tasks is \_\_\_\_\_

A)  500/ux

B)  400/ux

C)  300/ux

D)  600/ux

Answer: **A**

### Q.No : 17 - Main Subject

A cylindrical shell is considered to be thin if its ratio of diameter to thickness ( $d/t$ ) is

- A)  greater than 50
- B)  less than 50
- C)  less than 20
- D)  greater than 20

Answer: **D**

### Q.No : 18 - Main Subject

From the following, which one is not an unchannelized intersection

- A)  Tee
- B)  Cross
- C)  Unstaggered
- D)  Skewed

Answer: **C**

### Q.No : 19 - Main Subject

Theorem of Three moments is predominantly used to solve

- A)  continuous beams
- B)  fixed beams
- C)  propped cantilevers
- D)  simply supported beams

Answer: **A**

### Q.No : 20 - Main Subject

For national highways the material used for subgrade construction should have the dry density of not less than \_\_\_\_\_ gm/cc.

- A)  1.50
- B)  1.75
- C)  2.00

D)  2.25

Answer: **B**

### Q.No : 21 - Main Subject

In a leveling calculation, if the back sight of a bench mark of elevation 210.852m is seen as 2.324m, what is the height of instrument?

- A)  208.528m  
B)  212.014m  
C)  209.690m  
D)  213.176m

Answer: **D**

### Q.No : 22 - Main Subject

Relative stiffness of a member in a joint, whose other end is pinned, for calculating the distribution factor in moment distribution method is given by (where I and L are respectively the moment of inertia and the length of the member)

- A)  I/L  
B)  0.5 I/L  
C)  0.25 I/L  
D)  0.75 I/L

Answer: **D**

### Q.No : 23 - Main Subject

Which one is not an example for reaction turbine?

- A)  Francis turbine  
B)  Kaplan turbine  
C)  Scotch turbine  
D)  Girard turbine

Answer: **D**

### Q.No : 24 - Main Subject

The pressure at the bottom of a 0.3m high water column is

- A)  3000 Pa  
B)  2943 Pa

- C)  300 Pa  
D)  294.3 Pa

Answer: **B**

### Q.No : 25 - Main Subject

Degree of saturation of soil is defined as

- A)  Ratio of volume of water to the volume of voids  
B)  Ratio of volume of water to the volume of soil  
C)  Ratio of weight of water to the weight of soil  
D)  Ratio of weight of water to the weight of solids

Answer: **A**

### Q.No : 26 - Main Subject

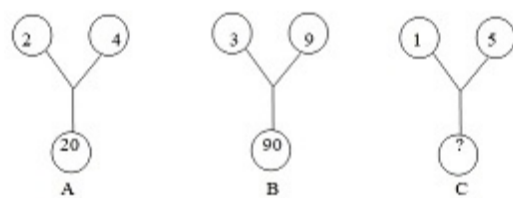
Vicat's needle apparatus is used to test the following property of cement

- A)  Soundness  
B)  Setting time  
C)  Permeability  
D)  fineness

Answer: **B**

### Q.No : 27 - Aptitude

Find the missing character:



- A)  75  
B)  26  
C)  25  
D)  20

Answer: **B**

### Q.No : 28 - Aptitude



Vineeth borrowed Rs.1200 at 15% rate of interest. He repaid Rs.560 at the end of the first year. What is the amount paid by him at the end of the second year to discharge his loan which was calculated at simple interest?

- A)  Rs. 1150  
B)  Rs. 1258  
C)  Rs.1342  
D)  Rs.1347

Answer: **A**

### Q.No : 29 - Aptitude

What is 16.67% of 14.285% of 12.5% of 11.11% of 6048?

- A)  1  
B)  2  
C)  4  
D)  1.5

Answer: **B**

### Q.No : 30 - Aptitude

A rectangular lawn is 50m long and 30m wide. It has roads 2 m wide joining the middle points of the opposite sides and also a path of same breath is running along inside the lawn. The total area of the path and roads is

- A)  1056 sq.m  
B)  928 sq.m  
C)  444 sq.m  
D)  750 sq.m

Answer: **C**

### Q.No : 31 - Aptitude

A boat rows downstream A to B in 14 h. What is his speed of rowing in still water if the distance between A and B is 42 km and his return trip takes 20 h?

- A)  3.45 km/h  
B)  2.55 km/h  
C)  7.24 km/h  
D)  3.25 km/h

Answer: **B**

### Q.No : 32 - Aptitude

A train of 24 carriages, each carriage of 60 m length with an engine of 60 m length is running at a speed of 60 km/hr. The time in which the train will cross the bridge measuring 1.5 km in length is

- A)  3 min  
B)  4 min  
C)  2 min  
D)  1 min

Answer: **A**

### Q.No : 33 - Aptitude

Three pipes fill a tank in 7 h. If two of them take 14 and 21 h each to fill the tank, how many hours will the 3rd pipe take to fill the tank?

- A)  34 h  
B)  42 h  
C)  56 h  
D)  32 h

Answer: **B**

### Q.No : 34 - Aptitude

The angle between the two hands of a clock is  $100^\circ$ , when the hour hand is between 4 and 5. What time does the watch show?

- A)  4hrs 30min  
B)  4 hrs. 40min  
C)  4hrs. 45min  
D)  4hrs. 50min

Answer: **B**

### Q.No : 35 - Aptitude

Two vessels contain mixtures of juice and water in the ratio of 8 to 3 and 5 to 1 respectively. In what ratio must liquid be drawn from each vessel to give a mixture in the ratio of 4 to 1?

- A)   $\frac{24}{11}$   
B)   $\frac{11}{24}$   
C)   $\frac{23}{12}$   
D)   $\frac{12}{23}$

Answer: **B**

**Q.No : 36 - Aptitude**

A deer takes nine steps for every 11 steps of a leopard, but 11 steps of a leopard are equal to 13 steps of deer. What is the ratio of the speed of deer to that of leopard?

- A)  11:09  
B)  13:09  
C)  11:13  
D)  09:13

Answer: **D**

**Q.No : 37 - Aptitude**

Two years ago, the average age of A, B and C was 24 years and that of B and C 7 years ago was 25 years. Find A's present age.

- A)  16  
B)  24  
C)  14  
D)  20

Answer: **C**

**Q.No : 38 - Aptitude**

A certain number when divided by 527 leaves the remainder 67. Find the remainder when the same number is divided by 31.

- A)  5  
B)  10  
C)  7  
D)  6

Answer: **A**

**Q.No : 39 - Aptitude**

Sharada Rani travelled 100km in 10h. She travelled first on a bicycle at 20km/h and then on foot at 5km/h. Find the distance she travelled on foot.

- A)  66.67 km  
B)  65.56 km  
C)  68.86 km  
D)  67.76 km

Answer: **A**

**Q.No : 40 - Aptitude**

Solve:  $\frac{777 \times 777 \times 777 - 333 \times 333 \times 333}{777 \times 777 + 777 \times 333 + 333 \times 333}$

- A)  222  
B)  333  
C)  444  
D)  555

Answer: C

### Q.No : 41 - Reasoning

Choose the correct alternative that will continue the same pattern and fill in the space 5,16,49,104,(...)

- A)  115  
B)  148  
C)  181  
D)  170

Answer: C

### Q.No : 42 - Reasoning

The Mughal emperor who drove away the Portuguese from Hughli, the premier port of Bengal, was

- A)  Akbar  
B)  Jahangir  
C)  Shah Jahan  
D)  Aurangzeb

Answer: C

### Q.No : 43 - Reasoning

McMohan line is the border between

- A)  India and China  
B)  India and Nepal  
C)  India and Pakistan  
D)  India and Burma

Answer: A

### Q.No : 44 - Reasoning

A cube painted blue on all the faces is cut into 125 cubes of equal size. How many cubes are painted on one face only?

- A)  8
- B)  16
- C)  36
- D)  54

Answer: **D**

### Q.No : 45 - Reasoning

If 'gnr tag zogqmp' stands for 'Seoul Olympic Organising Committee'; 'hytognremf' stands for 'summer Olympic games' and 'esmsdrhyto' stands for 'modern games history', what would be the code for 'summer' ?

- A)  hyto
- B)  gnr
- C)  emf
- D)  zog

Answer: **C**

### Q.No : 46 - Reasoning

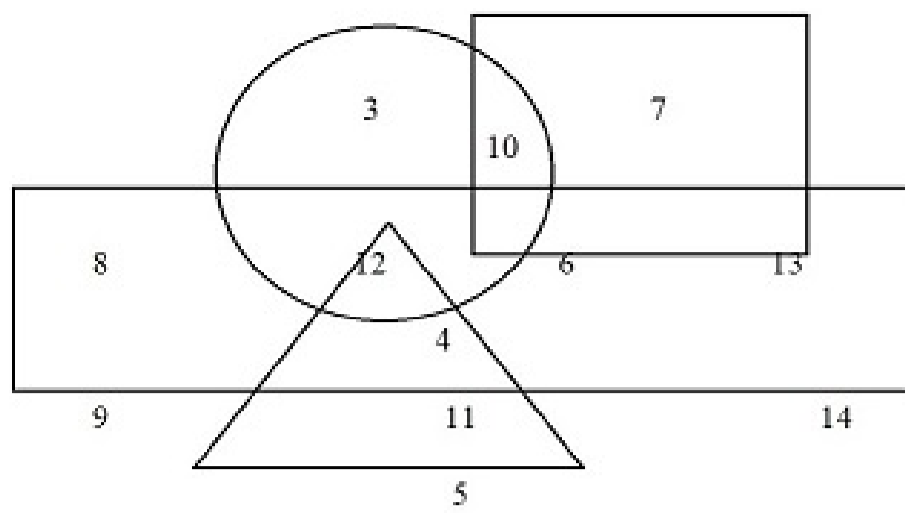
Savanna Grasslands with tall trees are mainly found in

- A)  South America
- B)  Africa
- C)  Central America
- D)  Australia

Answer: **B**

### Q.No : 47 - Reasoning

In the given diagram the rectangle represents male, the triangle represents educated, the circle represents urban and the square represents civil servants. Study the diagram carefully and answer the question.



Number of uneducated civil servants who neither male nor urban

- A)  3
- B)  4
- C)  7
- D)  11

Answer: C

### Q.No : 48 - Reasoning

Choose the missing term out of the given alternatives.

...., SIY, OEU, KAQ, GWM, CSI

- A)  VMC
- B)  WMC
- C)  VNC
- D)  WNC

Answer: B

### Q.No : 49 - Reasoning

Choose the missing characters accordingly.

Z	?	S
R	O	?
?	G	C

- A)  WJK
- B)  KWT
- C)  WKJ
- D)  JKW

Answer: C

### Q.No : 50 - Reasoning

If man is called girl, girl is called woman, woman is called boy, boy is called butler and butler is called rogue, who will serve in a restaurant ?

- A)  Butler  
B)  Girl  
C)  Man  
D)  Rogue

Answer: **D**

### Q.No : 51 - Reasoning

**I:Ocean :: Stone :II**

- I. (A) Glacier      (B) Lake      (C) Continent      (D) River  
II. (P) Rock      (Q) Pebble      (R) Granite      (S) Mountain

- A)  AR  
B)  BP  
C)  CS  
D)  DQ

Answer: **B**

### Q.No : 52 - Reasoning

**Direction for Question:** There are a set five to six statements followed by options consisting of three statements put together in a specific order. Choose the option which indicates a valid argument, that is, when the third statement is a conclusion drawn from the preceding two

- A. College students are intelligent.  
B. Intelligence is a collegian's attributes.  
C. Ram's sister is a college student.  
D. Ram is a college student.  
E. All intelligent people go to college.  
F. Ram is an intelligent person.

- A)  ADC  
B)  BCD  
C)  ABF

D)  ADF

Answer: D

### Q.No : 53 - Reasoning

**Direction for Question:** In the following question, two equations I and II are given. You are required to solve both the equations and give answers.

I.  $y^2 + 2y - 3 = 0$

II.  $2x^2 - 7x + 6 = 0$

A)   $x \leq y$

B)   $x > y$

C)   $x \geq y$

D)   $x = y$

Answer: A

### Q.No : 54 - Reasoning

In which country are diamonds abundantly found?

A)  Canada

B)  Russia

C)  South Africa

D)  Australia

Answer: C

### Q.No : 55 - Reasoning

Which country in Southeast Asia is not a member of ASEAN?

A)  Singapore

B)  Philippines

C)  Indonesia

D)  India

Answer: D

### Q.No : 56 - Reasoning

The total area of India is

A)  31 lakh sq.km

B)  33 lakh sq.km



- C)  320 lakh sq.km  
D)  35 lakh sq.km

Answer: **B**

### Q.No : 57 - Reasoning

Australia is known as the

- A)  Land of Golden Fleece  
B)  Dependent continent  
C)  South Europe  
D)  Richest Island

Answer: **A**

### Q.No : 58 - Reasoning

Shridath Ramphal's name is associated with

- A)  UNO  
B)  Commonwealth  
C)  NAM  
D)  SAARC

Answer: **B**

### Q.No : 59 - Reasoning

In the Olympic Games, the flags of six nations were flown on the masts in the Following way: The flag of America was to the left of Indian tricolor and to the right of the flag of France. The flag of Australia was on the right of the Indian flag but was to the left of the flag of Japan, which was to the left of the flag of China. Find the two flags which are in the centre.

- A)  India and Australia  
B)  America and India  
C)  Japan and Australia  
D)  America and Australia

Answer: **A**

### Q.No : 60 - Reasoning

The umbra is

- A)  the inner portion of the moon's shadow  
B)  formed by tangents to the sun and moon

- C)  both are correct  
D)  None of these is correct

Answer: C

### Q.No : 61 - Reasoning

If MACHINE is coded as 19-7-9-14-15-20-11 how will you code DANGER?

- A)  10-7-20-13-11-24  
B)  11-7-20-16-11-24  
C)  13-7-20-9-11-25  
D)  13-7-20-10-11-25

Answer: A

### Q.No : 62 - Reasoning

Deepak said to Nithin, "That boy playing with the football is the younger of the two brothers of the daughter of my father's wife." How is the boy playing football related to Deepak ?

- A)  Son  
B)  Brother  
C)  Cousin  
D)  Nephew

Answer: B

### Q.No : 63 - Reasoning

The duration of a normal one-half of a Hockey match is

- A)  45 min  
B)  40 min  
C)  35 min  
D)  30 min

Answer: C

### Q.No : 64 - Reasoning

Who was the first to classify the Seven Wonders of the Ancient World?

- A)  Aristotle

- B)  Plato  
C)  Antipater  
D)  Socrates

Answer: C

### Q.No : 65 - Reasoning

Which of the following soils is best suited for wheat cultivation?

- A)  Black soil  
B)  Red soil  
C)  Clayey  
D)  Deep rich

Answer: C

### Q.No : 66 - Reasoning

Raghu faces west. He turns  $45^{\circ}$  in clockwise direction and then  $180^{\circ}$  in the same direction and  $270^{\circ}$  anti clockwise direction. Which direction is he facing now?

- A)  South-West  
B)  South  
C)  West  
D)  North-West

Answer: A

### Q.No : 67 - Reasoning

If  $P + Q$  means P is the husband of Q;  $P \div Q$  means P is the sister of Q and  $P \times Q$  means P

is the son of Q, which of the following shows A is the daughter of B ?

- A)   $C \times B \div A$   
B)   $B + C \times A$   
C)   $D \times B + A$   
D)   $A \div D \times B$

Answer: D

### Q.No : 68 - Reasoning

Assertion (A) : All the Meridians and only the Equator form Great Circles.

Reason (R) : A great circle on the globe is one whose plane passes through the centre of the globe.

- A)  Both A and R are true and R is the correct explanation of A.  
 B)  Both A and R are true and R is not a correct explanation of A.  
 C)  A is true R is false.  
 D)  R is true but A is false.

Answer: **A**

### Q.No : 69 - General Knowledge

Match the following:

- |                   |                          |
|-------------------|--------------------------|
| A. City of Folden | (1) Belgium Gate         |
| B. Forbidden City | (2) Ireland              |
| C. Emerald Island | (3) Lhasa                |
| D. Cockpit of     | (4) San Europe Francisco |

Codes:

A      B      C      D

- A)  1      3      4      2  
 B)  4      3      2      1  
 C)  3      4      1      2  
 D)  4      2      3      1

Answer: **B**

### Q.No : 70 - General Knowledge

The infrared radiation by sun are strongly absorbed by

- A)  carbon dioxide  
 B)  water vapours  
 C)  carbon dioxide and water vapours  
 D)  ozone

Answer: **D**

### Q.No : 71 - English

Change the sentence into indirect narration: The students said, "We shall play a match tomorrow"

- A)  The students said they will play a match tomorrow

- B)  The students told they shall play a match tomorrow
- C)  The students said that they would play a match the next day
- D)  The students told that they should play a match tomorrow

Answer: C

### Q.No : 72 - English

I hope you will excuse me for encroaching ----- your valuable time

- A)  Upon
- B)  with
- C)  over
- D)  on

Answer: A

### Q.No : 73 - English

For the given word mark your answer as **Bacillus**

- A)  The given word is singular
- B)  The given word is plural
- C)  The given word could be used both as singular as well as plural
- D)  The word cannot be identified with any of the above categories

Answer: C

### Q.No : 74 - English

Directions: The first and the six sentences are marked as S1 and S6, the middle four sentences have been jumbled. Find the proper sequence of these four sentences.

S1: A century ago, the cinema was just a mechanical toy.

S6: Finally it has evolved as the century's most potent and versatile art form.

P: Thus it gained respectability and acceptance.

Q: It gradually came to be considered as an art form of the new era.

R: By the 1920s, even its worst critics had to take it seriously.

S: Later it was viewed as an extension of photography.

- A)  PQRS

- B)  SQRP
- C)  SPQR
- D)  QRSP

Answer: **D**

### Q.No : 75 - English

Change the sentence into passive voice:

Will the lesson have been taught by the teacher?

- A)  Will the teacher taught the lesson
- B)  Will the teacher have taught the lesson
- C)  Will the lesson taught by the teacher
- D)  Will the teacher has taught the lesson

Answer: **B**

### Q.No : 76 - English

Identify the word with correct spelling.

- A)  VACILATE
- B)  VACCILATE
- C)  VACIELATE
- D)  VACILLATE

Answer: **D**

### Q.No : 77 - English

Choose the pair of words which has similar relationship as the given pair:

**Anhydrous : saturated::**

- A)  Dry : wet
- B)  sweet : sour
- C)  solid : liquid
- D)  water : steam

Answer: **A**

### Q.No : 78 - English

Choose the word nearest in meaning to the given word. **Anodyne**

- A)  Battery
- B)  sedative
- C)  obsolete
- D)  Inse

Answer: **B**

### Q.No : 79 - English

Choose the word most opposite in meaning to the given word: **Ebullient**

- A)  Enthusiastic
- B)  calm
- C)  thin
- D)  alien

Answer: **B**

### Q.No : 80 - English

Spot the error if any in the following sentence:

I believe that the present problems faced by middle class parents in raising their children is caused by the growing distance between child and adult

a                      b                      c                      d

- A)  a
- B)  b
- C)  c
- D)  d

Answer: **B**

### Q.No : 81 - English

Choose the appropriate word to fill in the blanks.

This book is about a man who ----- his family and went to live in the Himalayas

- A)  banished
- B)  deserted
- C)  exiled
- D)  expelled

Answer: **B**

### Q.No : 82 - English

Choose the one that express the thought correctly in formal English

- A)  I'm glad to choose CRY as its "Ambassador for Children" this year.
- B)  CRY was chosen me as its "ambassador for Children" this year.
- C)  CRY chooses me its "Ambassador for children" this year.
- D)  I'm glad to be chosen by CRY as its "Ambassador for children" this year.

Answer: **D**

### Q.No : 83 - English

Identify the word which is different in meaning from the rest of the words

- A)  Meek
- B)  humble
- C)  arrogant
- D)  diffident

Answer: **C**

### Q.No : 84 - English

Identify the plural of the given word: **Madam**

- A)  madame
- B)  mesdames
- C)  medam
- D)  madem

Answer: **B**



## Q.No : 85 - English

Choose the correct expression for the given idiom/ phrase

### Gall and wormwood

- A)  Love by all
- B)  always under difficulties
- C)  a play in which neither party Wien
- D)  hateful

Answer: **A**

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