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Participant ID	
Participant Name	
Test Center Name	
Test Date	26/09/2021
Test Time	4:30 PM - 6:30 PM
Subject	Assistant Engineer (Civil)

Section : General Ability

**Q.1** In the question statement are given, followed by two arguments, 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 argument(s) is/are strong based on the information provided.

**Statement :** Should the private sector be completely nationalised in India?

**Argument I :** Yes, the only way to develop the private sector is by nationalising them.

**Argument II :** No, because after nationalisation the private sector will operate less efficiently.

- Ans**
- A. Both I and II are strong
  - B. Only argument II is strong
  - C. Neither I nor II is strong
  - D. Only argument I is strong

Question ID : 97675518401

**Q.2** Ashish cycles 11 km south, then turns west and cycles 8 km, then turns north and cycles 6 km, then turns east and cycles 2 km, then turns to his left and cycles 5 km. Where is he now with reference to his starting position?

- Ans**
- A. 6 km east
  - B. 8 km east
  - C. 8 km west
  - D. 6 km west

Question ID : 97675518405

Q.3 In the question two statements are given, followed by three conclusions, I, II and III. 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 given statements.

Statement 1 : Some cars are scooters.  
Statement 2 : All scooters are buses.

Conclusion I : Some scooters are cars.  
Conclusion II : Some buses are cars.  
Conclusion III : All cars are buses.

- Ans  A. Only conclusion I follows  
 B. All conclusions I, II and III follow  
 C. Only conclusion I and II follows  
 D. Only conclusion I and III follows

Question ID : 97675518400

Q.4 Select the pair in which the words share the same relation as that shared by the words in the given two pairs:

Maharashtra: Mumbai :: Gujarat: Gandhinagar

- Ans  A. Himachal Pradesh: Chandigarh  
 B. Odisha: Panjim  
 C. Kerala: Thiruvananthapuram  
 D. Nagaland: Gangtok

Question ID : 97675518393

Q.5 Richa walks 4 km in south-east direction, then she turns 90° to her left and walked for another 0.5 km, she then turns 180°. Which direction is she facing now?

- Ans  A. north-east  
 B. south-east  
 C. north-west  
 D. south-west

Question ID : 97675518406

Q.6 Which two numbers should be interchanged to make the below equation mathematically correct?

$$15 + 48 \div 3 \times 4 - 12 = 39$$

- Ans  A. 4, 12  
 B. 15, 48  
 C. 3, 4  
 D. 15, 12

Question ID : 97675518403

Q.7 Find the missing term in the following letter series :  
NR, \_\_\_\_\_, DH, YC

- Ans  A. JL  
 B. KL  
 C. IM  
 D. HM

Question ID : 97675518391

Q.8 If RUSTY is coded as PSQRW, then what is the code for FLARE?

- Ans
- A. EKZQD
  - B. CIXOB
  - C. DJYPC
  - D. ELYSC

Question ID : 97675518396

Q.9 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 given statements.

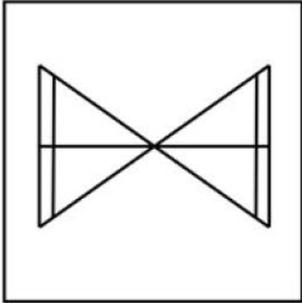
Statement 1 : All doors are windows.  
Statement 2 : Some doors are gates.

Conclusion I : Some windows are gates.  
Conclusion II : No gates are windows.

- Ans
- A. Neither I nor II follows
  - B. Only conclusion I follows
  - C. Only conclusion II follows
  - D. Both I and II follow

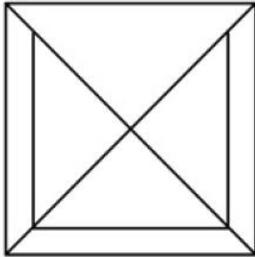
Question ID : 97675518399

Q.10 From the given answer figures, select the one in which the question figure is hidden/embedded.

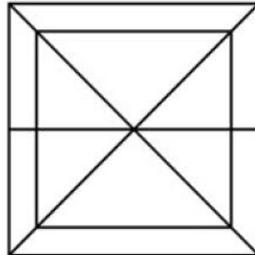


Ans

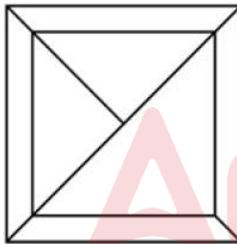
A.



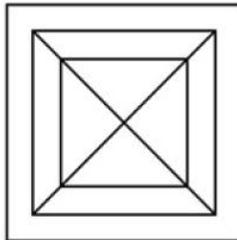
B.



C.

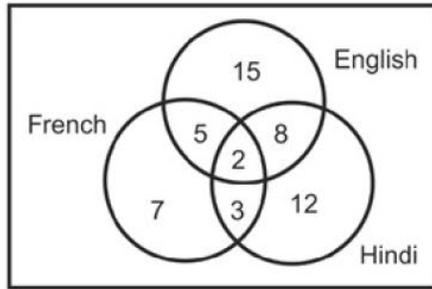


D.



Question ID : 97675518410

Q.11 The given Venn diagram shows the number of students in a class who can speak various languages. How many students can only speak one language?



- Ans
- A. 18
  - B. 36
  - C. 34
  - D. 16

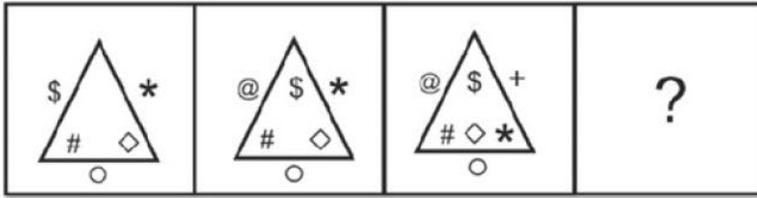
Question ID : 97675518404

Q.12 If LOCK is coded as 14-13-5-9, then what is the code for PEST?

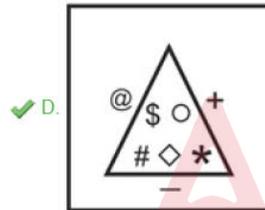
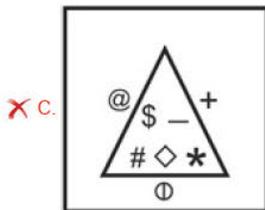
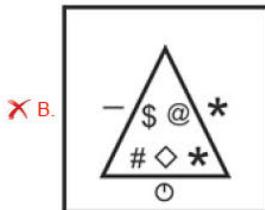
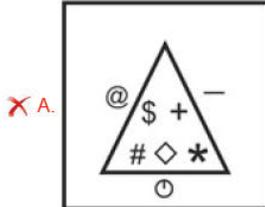
- Ans
- A. 18-3-20-18
  - B. 18-3-21-18
  - C. 18-4-21-19
  - D. 17-4-20-19

Question ID : 97675518395

Q.13 Which of the following answer figure completes the series of the question figure?



Ans



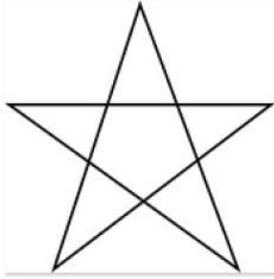
Question ID : 97675518407

Q.14 Select the pair that is related on the same basis to the pair given in the question.  
MTA : JQX : GNU :: ?

- Ans
- ✗ A. FNY : NML : SKD
  - ✓ B. EOY : BLV : YIS
  - ✗ C. EMR : DNF : XCB
  - ✗ D. ENY : CKD : SMF

Question ID : 97675518394

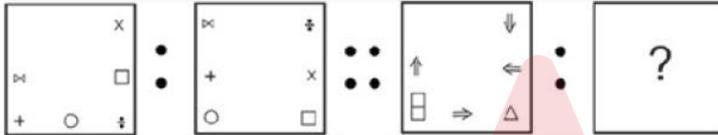
Q.15 How many triangles are there in the question figure?



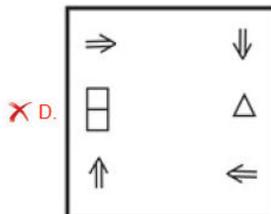
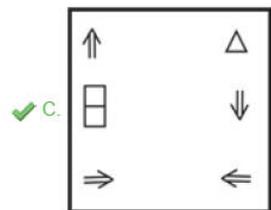
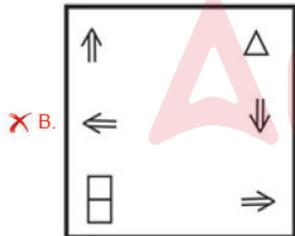
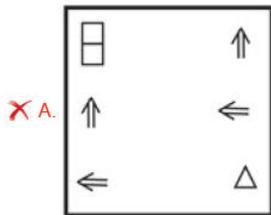
- Ans
- A. 6
  - B. 12
  - C. 8
  - D. 10

Question ID : 97675518409

Q.16 Select the option that is related to the third image on the same basis as the second image is related to the first image.



Ans



Question ID : 97675518408

Q.17 Arrange the given words in the sequence in which they occur in the dictionary.

1. STALKER
2. STALKED
3. STALLER
4. STAINED
5. STAMPED

Ans  A. 1,2,3,4,5  
 B. 2,1,4,3,5  
 C. 4,2,1,3,5  
 D. 1,2,4,3,5

Question ID : 97675518392

Q.18 Vishal, Tanmay, Zain, Yashi, Rishi and Manish are sitting in a circle facing the centre. Rishi is opposite Manish, Yashi is to the left of Vishal who is opposite Tanmay. Who is to the left of Zain, if Manish is between Zain and Vishal?

Ans  A. Manish  
 B. Rishi  
 C. Tanmay  
 D. Vishal

Question ID : 97675518398

Q.19 If  $-2x < -13 + 5$ , then which among the following is true?

Ans  A.  $x > 3$   
 B.  $x < 6$   
 C.  $x > 4$   
 D.  $x < 8$

Question ID : 97675518402

Q.20 If  $P \$ Q$  means P is the husband of Q;  $P ! Q$  means P is the mother of Q and  $P * Q$  means P is the daughter of Q, which of the following shows that Z is brother of W's wife, if Z is male?

Ans  A.  $W * X ! Y \$ Z$   
 B.  $W \$ X ! Y * Z$   
 C.  $W * X \$ Y ! Z$   
 D.  $W \$ X * Y ! Z$

Question ID : 97675518397

Section : General Awareness

Q.1 The Rowlatt Act of 1919 was termed as the \_\_\_\_\_ Act.

Ans  A. Red  
 B. Black  
 C. Blue  
 D. White

Question ID : 97675518421

Q.2 Who won the BBC Indian Sportswoman of the Year 2021?

- Ans
- A. Sania Mirza
  - B. P.V. Sindhu
  - C. Koneru Humpy
  - D. Saina Nehwal

Question ID : 97675518429

Q.3 Baglihar Dam, built across Chenab river, is located in \_\_\_\_\_.

- Ans
- A. Jammu and Kashmir
  - B. Himachal Pradesh
  - C. Uttarakhand
  - D. Punjab

Question ID : 97675518420

Q.4 As announced in the Budget 2021, to promote seaweed cultivation, Govt. will establish Multipurpose Seaweed Park in \_\_\_\_\_ by Indian Government.

- Ans
- A. Pondicherry
  - B. Tamil Nadu
  - C. Assam
  - D. West Bengal

Question ID : 97675518414

Q.5 'We Are Displaced' is written by \_\_\_\_\_.

- Ans
- A. Venkaiah Naidu
  - B. Malala Yousafzai
  - C. Meenakshi Lekhi
  - D. Shashi Tharoor

Question ID : 97675518424

Q.6 What is the scientific name of Vitamin D?

- Ans
- A. Thiamine
  - B. Riboflavin
  - C. Calciferol
  - D. Tocopherol

Question ID : 97675518415

Q.7 \_\_\_\_\_ was called the First Truly Swadeshi bank and it was founded in the year 1911.

- Ans
- A. Canara Bank
  - B. Bank of Baroda
  - C. Central Bank of India
  - D. Punjab National Bank

Question ID : 97675518413

Q.8 When was the second battle of Panipat fought?

- Ans  A. 1761  
 B. 1556  
 C. 1628  
 D. 1527

Question ID : 97675518422

Q.9 Solheim Cup is associated with which of the following games?

- Ans  A. Golf  
 B. Cricket  
 C. Football  
 D. Hockey

Question ID : 97675518430

Q.10 In 1945, Shimla Conference was proposed by \_\_\_\_\_ to solve the political deadlock.

- Ans  A. Lord Wavell  
 B. Lord Cornwallis  
 C. Lord Irwin  
 D. Lord Canning

Question ID 97675518423

Q.11 Powada are usually ballads sung for the heroes of the past. It is associated with which of the following states?

- Ans  A. Tamil Nadu  
 B. Maharashtra  
 C. Madhya Pradesh  
 D. Odisha

Question ID : 97675518411

Q.12 Which among the following constitutional amendments is associated with the formation of Arunachal Pradesh legislative assembly?

- Ans  A. 32nd  
 B. 37th  
 C. 25th  
 D. 28th

Question ID : 97675518428

Q.13 United Nations Children's Fund (UNICEF) was founded in \_\_\_\_\_.

- Ans  A. 1948  
 B. 1945  
 C. 1946  
 D. 1947

Question ID : 97675518426

Q.14 The concept of Fundamental Duties in the Indian constitution is borrowed from the constitution of

- Ans  A. Union of Soviet Socialist Republics (USSR)  
 B. France  
 C. Ireland  
 D. Canada

Question ID : 97675518427

Q.15 Snails belongs to \_\_\_\_\_ animal phylum.

- Ans  A. Anthropoda  
 B. Echinodermata  
 C. Platyhelminthes  
 D. Mollusca

Question ID : 97675518417

Q.16 Performed by the community of snake charmers, \_\_\_\_\_ dance involves dancers emulating the movements of snakes.

- Ans  A. Ghoomar  
 B. Chari  
 C. Kalbelia  
 D. Kachchi Ghodi

Question ID : 97675518412

Q.17 Black soil is also known as 'Black \_\_\_\_\_ Soil'.

- Ans  A. Cotton  
 B. Bajara  
 C. Maize  
 D. Rice

Question ID : 97675518419

Q.18 Which among the following films won the Oscar award 2020 for the Best International Feature Film of the year?

- Ans  A. Corpus Christi  
 B. Honeyland  
 C. Pain and Glory  
 D. Parasite

Question ID : 97675518425

Q.19 \_\_\_\_\_ are called the amphibians of the plant kingdom.

- Ans  A. Gymnosperms  
 B. Angiosperms  
 C. Bryophytes  
 D. Pteridophytes

Question ID : 97675518416

Q.20 Which among the following mountain ranges is the longest in the Lesser Himalayas?

- Ans  A. Mahabharat Lekh  
 B. Pir Panjal  
 C. Dhauladhar  
 D. Nag Tibba

Question ID : 97675518418

Section : Arithmetic Ability

Q.1 P borrowed an amount from Q at a simple interest of 10% p.a. At the end of the year, P paid back Rs 99000 which was 90% of what she owed. How much money did P borrow?

- Ans  A. Rs 100000  
 B. Rs 11000  
 C. Rs 111000  
 D. Rs 90000

Question ID : 97675518437

Q.2 A car can cover 150 km at a certain time. If its speed is decreased by 5km/h, the same car requires one hour extra time to cover the same distance. What is the speed of the car?

- Ans  A. 35km/h  
 B. 30 km/h  
 C. 25 km/h  
 D. 18 km/h

Question ID : 97675518443

Q.3 Saumya donates 8% of her salary as a charity. If she donated Rs 115200 in a year, what was her monthly income?

- Ans  A. Rs 240000  
 B. Rs 10000  
 C. Rs 160000  
 D. Rs 120000

Question ID : 97675518438

Q.4 Which is the largest among  $\frac{1}{2}$ ,  $\frac{2}{3}$ ,  $\frac{4}{5}$ , 1?

- Ans  A. 1  
 B.  $\frac{4}{5}$   
 C.  $\frac{2}{3}$   
 D.  $\frac{1}{2}$

Question ID : 97675518433

Q.5 A trader cheats his customers by using weight  $x\%$  less than the true weight. On selling an item worth Rs 2000 per kilo at the cost price he makes a profit of 25%. What is the value of  $x$ ?

- Ans  A. 20%  
 B. 30%  
 C. 25%  
 D. 50%

Question ID : 97675518440

Q.6 A cone of radius 5 cm and height 12 cm was attached to a solid cylinder of the same dimensions. What will be the total cost of painting the entire solid at the rate of Rs 10 per sq cm?

- Ans  A. Rs 660  
 B. Rs 66000  
 C. Rs 6600  
 D. Rs 6000

Question ID : 97675518446

Q.7 A 70 litre mixture has liquids A and B in the ratio 5 : 9. How many litres of liquid A must be added so that the ratio becomes 2 : 3?

- Ans  A. 4 litres  
 B. 10 litres  
 C. 3 litres  
 D. 5 litres

Question ID : 97675518441

Q.8 In a village a well of height 60 m and of diameter 4 m was dug and the earth that was dug out was spread out in the shape of a cone of height 20 m. What will be the radius of the cone so formed?

- Ans  A. 3 m  
 B. 10 m  
 C. 5 m  
 D. 6 m

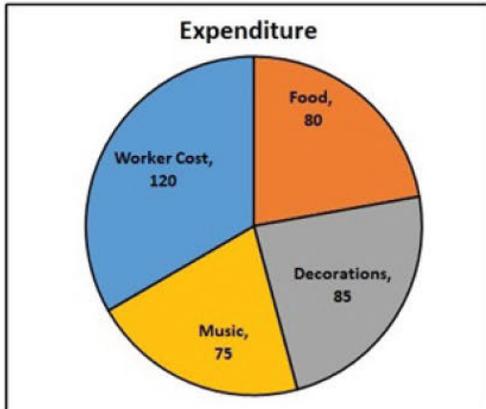
Question ID : 97675518445

Q.9 The average height of a class of 40 students is 100 cm. If height of the teacher is included, the average increases by 1 cm. What is the height of the teacher?

- Ans  A. 140 cm  
 B. 141 cm  
 C. 142 cm  
 D. 143 cm

Question ID : 97675518436

Q.10 The following pie chart shows (in form of degrees) the expenditure incurred during the organisation of food festival. There were 20 workers employed for the event and each was to be paid Rs 25000 in cash. What was the total expense of the event?



- Ans
- A. Rs 1500000
  - B. Rs 150000
  - C. Rs 15000
  - D. Rs 150000

Question ID : 97675518448

Q.11 P and Q were to compete in a 12 km race. P takes 2 hours less than Q to complete the race. Had Q increased his speed by 100%, he would have completed the race in 3 hours. What is the speed of P?

- Ans
- A. 3 km/h
  - B. 4 km/h
  - C. 2 km/h
  - D. 1 km/h

Question ID : 97675518442

Q.12 Irina and Isla can complete a piece of work in 20 and 25 days respectively. If they were working together, what percent of the work will be completed in 5 days?

- Ans
- A. 36%
  - B. 45%
  - C. 30%
  - D. 40%

Question ID : 97675518444

Q.13 What is the LCM of 24 and 36?

- Ans
- A. 44
  - B. 48
  - C. 36
  - D. 72

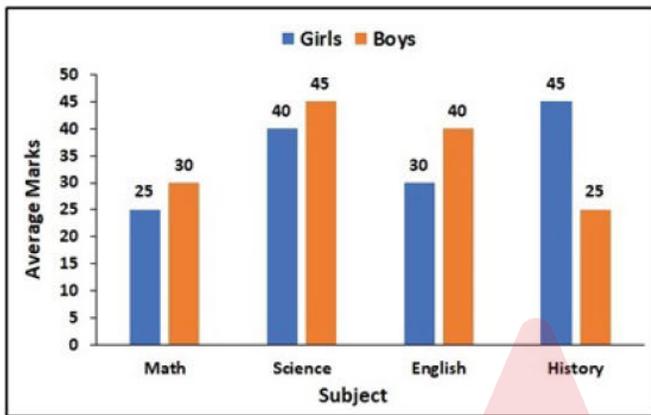
Question ID : 97675518431

Q.14 What must be added to 45680 to make it exactly divisible by 9?

- Ans
- A. 0
  - B. 1
  - C. 5
  - D. 4

Question ID : 97675518432

Q.15 The following bar graph gives the average marks distributions of 50 girls and 40 boys in a class. What is the average marks of the students in Math? [Round it off to the nearest integer]



- Ans
- A. 26
  - B. 25
  - C. 27
  - D. 24

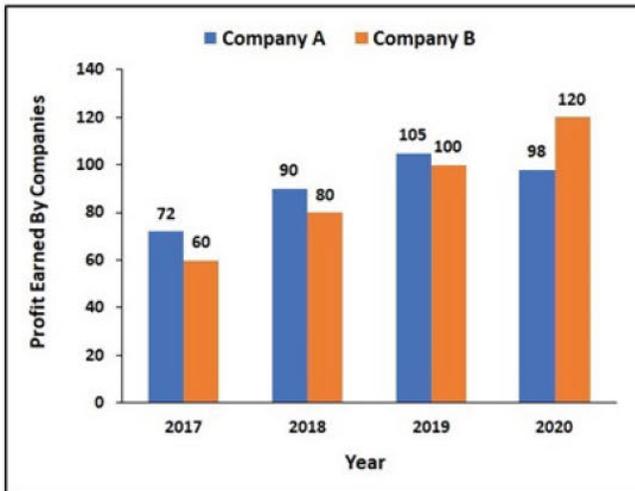
Question ID : 97675518449

Q.16 What is the number which on dividing 80 and 85 leaves a remainder of 3 and 1 respectively?

- Ans
- A. 5
  - B. 6
  - C. 7
  - D. 11

Question ID : 97675518434

Q.17 The following graph gives the details of the profit earned by companies A and B in Rs lakhs over the years.  
Which of the following years has the highest difference in profit between A and B?



- Ans  A. 2020  
 B. 2018  
 C. 2017  
 D. 2019

Question ID : 97675518450

Q.18 The following table gives the production ratio of wheat and jute.  
If the total cost of production in 2018 was Rs 18 lakhs, what was the cost of production of wheat for the same year?

YEAR	RATIO	
	WHEAT	JUTE
2017	3	4
2018	2	3
2019	1	2
2020	6	5

- Ans  A. Rs 5 lakhs  
 B. Rs 7.2 lakhs  
 C. Rs 6 lakhs  
 D. Rs 8 lakhs

Question ID : 97675518447

Q.19 Which of the following is the single discount equivalent to successive discounts of 10% and 20%?

- Ans  A. 15%  
 B. 28%  
 C. 32%  
 D. 30%

Question ID : 97675518439

Q.20 What is the least perfect square that is a multiple of 7, 11 and 12?

- Ans
- A. 45000
  - B. 9000
  - C. 853776
  - D. 8100

Question ID : 97675518435

Section : General English

Q.1 Select the most appropriate 'one word ' for the expression given below.

"strange and unpleasant, especially in a silly or slightly frightening way"

- Ans
- A. grotto
  - B. grumpy
  - C. grotesque
  - D. grunge

Question ID : 97675518455

Q.2 Select the most appropriate 'one word ' for the expression given below.

"having very little money"

- Ans
- A. wholesome
  - B. impeccable
  - C. impecunious
  - D. impeccable

Question ID : 97675518454

Q.3 The sentence below has been divided into three parts. Select the part of the sentence that has an error. If the sentence has no error, select the option 'No Error'.

Ecological connectivity can also help species adopt to future / environmental conditions and buffer / changes by bolstering ecological resilience.

- Ans
- A. Ecological connectivity can also help species adopt to future
  - B. No Error
  - C. changes by bolstering ecological resilience.
  - D. environmental conditions and buffer

Question ID : 97675518451

Q.4 Fill in the blank with the appropriate word.

\_\_\_\_\_ may refer to being clear of immediate or residual effects of any mind-altering substances.

- Ans
- A. Austerity
  - B. Sorority
  - C. Sobriety
  - D. Atrocity

Question ID : 97675518457

Q.5 Some parts of a sentence have been jumbled up, and labelled P, Q, R and S. Select the option that gives the correct sequence in which these parts can be rearranged to form a meaningful and grammatically correct sentence.

Although Amazon

P: the first streaming service to produce an Oscar-winning movie

Q: screenplay in 2016, it has adopted a more

R: when Manchester by the Sea won best actor for Casey Affleck and best original

S: beat Netflix to become  
low-key strategy.

- Ans
- A. PSQR
  - B. PQSR
  - C. SPQR
  - D. SPRQ

Question ID : 97675518459

Q.6 Four words are given, out of which only one word is spelt correctly. Choose the correctly spelt word.

- Ans
- A. GOURMEY
  - B. GORMETT
  - C. GOURMET
  - D. GORMETTE

Question ID : 97675518462

Q.7 Select the word that is closest in meaning (SYNONYM) to the word given below.

CAISSON

- Ans
- A. Monarch
  - B. Case
  - C. Ration
  - D. Raisins

Question ID : 97675518460

Q.8 The sentence below has been divided into three parts. Select the part of the sentence that has an error. If the sentence has no error, select the option 'No Error'.

It must be compelled that during the first three decades /  
of the 19th century, the development of education / took place only through the  
traditional institutions.

- Ans
- A. of the 19th century, the development of education
  - B. It must be compelled that during the first three decades
  - C. took place only through the traditional institutions.
  - D. No Error

Question ID : 97675518453

Q.9 Four words are given, out of which only one word is spelt correctly. Choose the correctly spelt word.

- Ans
- A. KALEIDSCOPE
  - B. KALEIDOSCOPE
  - C. KALAIDOSCOPE
  - D. KALAIDSCOPE

Question ID : 97675518463

Q.10 The sentence below has been divided into three parts. Select the part of the sentence that has an error. If the sentence has no error, select the option 'No Error'.

On 22nd May 2020, India would be launching it's / Marine Turtle Policy aimed at addressing the / pollution caused by micro-plastics.

- Ans
- A. pollution caused by micro-plastics.
  - B. On 22nd May 2020, India would be launching it's
  - C. Marine Turtle Policy aimed at addressing the
  - D. No Error

Question ID : 97675518452

Q.11 Select the most appropriate meaning of the given idiom.

"chink in one's armor"

- Ans
- A. Vulnerable area
  - B. Most resilient area
  - C. The shiny edge resembling the strengths
  - D. Most guarded area

Question ID : 97675518465

Q.12 Fill in the blank with the appropriate word.

There is no such thing as voluntary attention \_\_\_\_\_ for more than a few seconds at a time.

- Ans
- A. levied
  - B. shrunken
  - C. taken
  - D. sustained

Question ID : 97675518456

Q.13 Select the most appropriate meaning of the given idiom.

"Cook the books"

- Ans
- A. Dishonest accounting
  - B. Wasting a valuable resource completing a task
  - C. Using an incorrect tool for
  - D. Not knowing the right thing to do

Question ID : 97675518464

Q.14 Select the word that is the opposite meaning (ANTONYM) to the word given below.

"Mirage"

- Ans
- A. Hallucination
  - B. Reality
  - C. Fantasy
  - D. Phantasm

Question ID : 97675518461

**Q.15** Some parts of a sentence have been jumbled up, and labelled P, Q, R and S. Select the option that gives the correct sequence in which these parts can be rearranged to form a meaningful and grammatically correct sentence.

Being the

**P:** it is important to look through samples of essays

**Q:** to get a clear picture of how to write one

**R:** and university students,

**S:** most important writing task for college on your own.

**Ans** ✓ A. SRPQ

✗ B. RSQP

✗ C. PSQR

✗ D. PSRQ

Question ID : 97675518458

**Comprehension:**

A passage is given with 5 questions following it. Read the passage carefully and choose the best answer to each question out of the four alternatives.

Every time we Google something, Facebook someone, Uber somewhere, or even just turn on a light, we create data that businesses collect and use to make decisions about us. In many ways this has improved our lives, yet, we as individuals do not benefit from this wealth of data as much as we could. Moreover, whether it is a bank evaluating our credit worthiness, an insurance company determining our risk level, or a potential employer deciding whether we get a job, it is likely that this data will be used against us rather than for us.

In Data for the People, Andreas Weigend draws on his years as a consultant for commerce, education, healthcare, travel and finance companies to outline how Big Data can work better for all of us. As of today, how much we benefit from Big Data depends on how closely the interests of big companies align with our own. Too often, outdated standards of control and privacy force us into unfair contracts with data companies, but it doesn't have to be this way. Weigend makes a powerful argument that we need to take control of how our data is used to actually make it work for us. Only then can we the people get back more from Big Data than we give it.

The success of data mining solutions tailored for e-commerce applications, as opposed to generic data mining systems, is an example. With more and more information accessible in electronic forms and available on the Web, and with increasingly powerful data mining tools being developed and put into use, there are increasing concerns that data mining may pose a threat to our privacy and data security. However, it is important to note that most of the major data mining applications do not even touch personal data. Prominent examples include applications involving natural resources, the prediction of floods and droughts, meteorology, astronomy, geography, geology, biology, and other scientific and engineering data.

**SubQuestion No : 16**

**Q.16** Data mining is used for :

**Ans** ✗ A. Shaping diamond mines to give a better yield

✓ B. Making decisions about us

✗ C. To search the correct keyword on search engines on the internet

✗ D. To turn on the light

Question ID : 97675518467

**Comprehension:**

A passage is given with 5 questions following it. Read the passage carefully and choose the best answer to each question out of the four alternatives.

Every time we Google something, Facebook someone, Uber somewhere, or even just turn on a light, we create data that businesses collect and use to make decisions about us. In many ways this has improved our lives, yet, we as individuals do not benefit from this wealth of data as much as we could. Moreover, whether it is a bank evaluating our credit worthiness, an insurance company determining our risk level, or a potential employer deciding whether we get a job, it is likely that this data will be used against us rather than for us.

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**SubQuestion No : 17**

**Q.17 How can we utilise big data in a better fashion ?**

- Ans**
- A. Insurance companies should not be allowed to used mined data
  - B. Everybody should be taught in detail big data and data mining
  - C. Job employer should have all the data about his employee
  - D. We should be able to control how our data is used

Question ID : 97675518469

**Comprehension:**

A passage is given with 5 questions following it. Read the passage carefully and choose the best answer to each question out of the four alternatives.

Every time we Google something, Facebook someone, Uber somewhere, or even just turn on a light, we create data that businesses collect and use to make decisions about us. In many ways this has improved our lives, yet, we as individuals do not benefit from this wealth of data as much as we could. Moreover, whether it is a bank evaluating our credit worthiness, an insurance company determining our risk level, or a potential employer deciding whether we get a job, it is likely that this data will be used against us rather than for us.

In *Data for the People*, Andreas Weigend draws on his years as a consultant for commerce, education, healthcare, travel and finance companies to outline how Big Data can work better for all of us. As of today, how much we benefit from Big Data depends on how closely the interests of big companies align with our own. Too often, outdated standards of control and privacy force us into unfair contracts with data companies, but it doesn't have to be this way. Weigend makes a powerful argument that we need to take control of how our data is used to actually make it work for us. Only then can we the people get back more from Big Data than we give it.

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**SubQuestion No : 18**

**Q.18 How has data mining improved our lives ?**

- Ans**  A. Data mined from the user is cheaply sold in the market.
- B. Data mined from the user tells the internet about the needs and wants of the users and give appropriate search results.
- C. Data mining requires more cookies which indeed makes the internet slower
- D. Data mining has barely had any impact on the society

Question ID : 97675518468

**Comprehension:**

A passage is given with 5 questions following it. Read the passage carefully and choose the best answer to each question out of the four alternatives.

Every time we Google something, Facebook someone, Uber somewhere, or even just turn on a light, we create data that businesses collect and use to make decisions about us. In many ways this has improved our lives, yet, we as individuals do not benefit from this wealth of data as much as we could. Moreover, whether it is a bank evaluating our credit worthiness, an insurance company determining our risk level, or a potential employer deciding whether we get a job, it is likely that this data will be used against us rather than for us.

In *Data for the People*, Andreas Weigend draws on his years as a consultant for commerce, education, healthcare, travel and finance companies to outline how Big Data can work better for all of us. As of today, how much we benefit from Big Data depends on how closely the interests of big companies align with our own. Too often, outdated standards of control and privacy force us into unfair contracts with data companies, but it doesn't have to be this way. Weigend makes a powerful argument that we need to take control of how our data is used to actually make it work for us. Only then can we the people get back more from Big Data than we give it.

The success of data mining solutions tailored for e-commerce applications, as opposed to generic data mining systems, is an example. With more and more information accessible in electronic forms and available on the Web, and with increasingly powerful data mining tools being developed and put into use, there are increasing concerns that data mining may pose a threat to our privacy and data security. However, it is important to note that most of the major data mining applications do not even touch personal data. Prominent examples include applications involving natural resources, the prediction of floods and droughts, meteorology, astronomy, geography, geology, biology, and other scientific and engineering data.

**SubQuestion No : 19**

**Q.19 In *Data for the People*, Andreas Weigend draws on his years as a consultant for:**

- Ans**
- A. Commerce, education, manufacturing, travel and finance companies
  - B. Science, education, healthcare, travel and finance companies
  - C. Commerce, education, healthcare, travel and finance companies
  - D. Commerce, education, healthcare, production and finance companies

Question ID : 97675518471

**Comprehension:**

A passage is given with 5 questions following it. Read the passage carefully and choose the best answer to each question out of the four alternatives.

Every time we Google something, Facebook someone, Uber somewhere, or even just turn on a light, we create data that businesses collect and use to make decisions about us. In many ways this has improved our lives, yet, we as individuals do not benefit from this wealth of data as much as we could. Moreover, whether it is a bank evaluating our credit worthiness, an insurance company determining our risk level, or a potential employer deciding whether we get a job, it is likely that this data will be used against us rather than for us.

In Data for the People, Andreas Weigend draws on his years as a consultant for commerce, education, healthcare, travel and finance companies to outline how Big Data can work better for all of us. As of today, how much we benefit from Big Data depends on how closely the interests of big companies align with our own. Too often, outdated standards of control and privacy force us into unfair contracts with data companies, but it doesn't have to be this way. Weigend makes a powerful argument that we need to take control of how our data is used to actually make it work for us. Only then can we the people get back more from Big Data than we give it.

The success of data mining solutions tailored for e-commerce applications, as opposed to generic data mining systems, is an example. With more and more information accessible in electronic forms and available on the Web, and with increasingly powerful data mining tools being developed and put into use, there are increasing concerns that data mining may pose a threat to our privacy and data security. However, it is important to note that most of the major data mining applications do not even touch personal data. Prominent examples include applications involving natural resources, the prediction of floods and droughts, meteorology, astronomy, geography, geology, biology, and other scientific and engineering data.

SubQuestion No : 20

Q.20 Why is data mining becoming a reason for concern ?

- Ans  A. major data mining applications do not even touch personal data
- B. we as individuals do not benefit from this wealth of data as much as we could
- C. updated standards of control and privacy contracts with data companies
- D. data mining may pose a threat to our privacy and data security

Question ID : 97675518470

Section : General Hindi

Q.1 निम्नलिखित प्रश्न में, चार विकल्पों में से, उस विकल्प का चयन करें जो विराम चिह्न युक्त वाक्य का सही विकल्प हो।

- Ans  A. अब क्या लेकर घर लौटूँ यह सोचकर वह बहुत ही दुखी हो गया।
- B. 'अब क्या लेकर घर लौटूँ'- यह सोचकर वह बहुत ही दुखी हो गया।
- C. अब क्या लेकर घर लौटूँ, यह सोचकर, वह बहुत ही दुखी हो गया।
- D. अब क्या लेकर घर लौटूँ यह सोचकर वह बहुत ही दुखी हो गया।

Question ID : 97675518483

Q.2 निम्नलिखित प्रश्न में, चार विकल्पों में से, उस विकल्प का चयन करें जो दी गई लोकोक्ति का सही अर्थ वाला विकल्प है।

अंधे को अंधेरे में बड़े दूर की सूझी -

- Ans  A. मनचाही वस्तु मिल जाना
- B. मूर्ख को बुद्धिमत्ता की बात सूझना
- C. बेसहारे का सहारा
- D. भलाई करने वाले का भला होना

Question ID : 97675518486

Q.3 निम्नलिखित प्रश्न में, चार विकल्पों में से, उस विकल्प का चयन करें जो दिए गए वाक्य के काल का सही विकल्प हो।  
सीमा ने पढ़ाई की होगी।

- Ans
- A. संदिग्ध भूतकाल
  - B. सामान्य वर्तमानकाल
  - C. हेतु हेतुमद भविष्यत् काल
  - D. हेतु हेतुमद भूतकाल

Question ID : 97675518482

Q.4 निम्नलिखित प्रश्न में, चार विकल्पों में से, उस विकल्प का चयन करें जो विलोम शब्द का सबसे अच्छा विकल्प है।

पाश्चात्य

- Ans
- A. पराथ
  - B. संहारक
  - C. पिछला
  - D. पौरवात्य

Question ID : 97675518477

Q.5 निम्नलिखित प्रश्न में, चार विकल्पों में से, उस विकल्प का चयन करें जो दिए गए मुहावरे का सही अर्थ वाला विकल्प है।  
अपना उल्लू सीधा करना -

- Ans
- A. होश में आना
  - B. मूर्ख
  - C. स्वार्थ सिद्ध करना
  - D. बुद्धिमान व्यक्त

Question ID : 97675518484

Q.6 निम्नलिखित प्रश्न में, चार विकल्पों में से, उस विकल्प का चयन करें जो भाववाचक संज्ञा का सही विकल्प नहीं है।

- Ans
- A. उपेक्षा
  - B. मित्रत्व
  - C. सुखद
  - D. कायरता

Question ID : 97675518474

Q.7 निम्नलिखित प्रश्न में, चार विकल्पों में से, उस विकल्प का चयन करें जो दिए गए शब्द के लिए बहुवचन शब्द का सबसे अच्छा विकल्प है।  
तस्वीर

- Ans
- A. तस्वीर
  - B. तस्वीरो
  - C. तस्विर
  - D. तस्वीर

Question ID : 97675518480

Q.8 निम्नलिखित प्रश्न में, चार विकल्पों में से, उस विकल्प का चयन करें जो दिए गए शब्द के पर्यायवाची शब्द का सही विकल्प नहीं है।  
धनुष

- Ans
- A. पामर
  - B. कोदंड
  - C. कमान
  - D. शरासन

Question ID : 97675518476

Q.9 निम्नलिखित प्रश्न में, चार विकल्पों में से, उस विकल्प का चयन करें जो शुद्ध शब्द का सही विकल्प है।

- Ans
- A. वीसमृति
  - B. विस्मृति
  - C. विस्त्रिती
  - D. विस्मिति

Question ID : 97675518479

Q.10 निम्नलिखित प्रश्न में, चार विकल्पों में से, उस विकल्प का चयन करें जो दिए गए मुहावरे का सही अर्थ वाला विकल्प है।  
अथाह में पड़ना -

- Ans
- A. फायदा होना
  - B. बहुत मिलना
  - C. मुश्किल में पड़ना
  - D. उपाय सोचना

Question ID : 97675518485

Q.11 निम्नलिखित प्रश्न में, चार विकल्पों में से, उस विकल्प का चयन करें जो देशज शब्द का सही विकल्प हो।

- Ans
- A. खुसुर-पुसुर
  - B. नोटिस
  - C. गोभी
  - D. बहादुर

Question ID : 97675518472

Q.12 निम्नलिखित प्रश्न में, चार विकल्पों में से, उस विकल्प का चयन करें जो विदेशी शब्द का सही विकल्प हो।

- Ans
- A. खामोश
  - B. धक्का
  - C. घोटाला
  - D. टोटी

Question ID : 97675518473

Q.13 निम्नलिखित प्रश्न में, चार विकल्पों में से, उस विकल्प का चयन करें जो कोष्ठक में दिए गए शब्द के अनुसार उत्तम पुरुष वाचक सर्वनाम का सबसे अच्छा विकल्प है।

- Ans
- A. (तुम्हें) कुछ काम करना चाहिए।
  - B. बारिश में (हमारी) पुस्तकें भीग गईं।
  - C. (तुमसे) कुछ काम है।
  - D. (उसे) कुछ मत कहना।

Question ID : 97675518481

Q.14 निम्नलिखित प्रश्न में, चार विकल्पों में से, उस विकल्प का चयन करें जो सर्वनाम के भेद का सही विकल्प हो।  
जैसा करोगे, वैसा भरोगे।

- Ans  A. अनिश्चय वाचक  
 B. सम्बन्ध वाचक  
 C. निजवाचक  
 D. उत्तम पुरुष

Question ID : 97675518475

Q.15 निम्नलिखित प्रश्न में, चार विकल्पों में से, उस सही विकल्प का चयन करें जो रिक्त स्थान के लिए उपयुक्त शब्द का सही विकल्प है।  
भारतवासियों को \_\_\_\_\_ दृष्टि से सोचना चाहिए।

- Ans  A. संकोच  
 B. निकृष्ट  
 C. व्यापक  
 D. अचेतन

Question ID : 97675518478

**Comprehension:**

नीचे दिए गये गद्यांश के बाद 5 प्रश्न दिए गये हैं। इस गद्यांश को ध्यानपूर्वक पढ़ें और चार विकल्पों में से प्रत्येक प्रश्न का सर्वोत्तम उत्तर चुनें।

जीवन में बहुत अंधकार है और अंधकार की ही भाँति अशुभ और अनीति हैं। कुछ लोग इस अंधकार को स्वीकार कर लेते हैं और तब उनके भीतर जो प्रकाश तक पहुँचने और पाने की आकांक्षा थी, वह क्रमशः क्षीण होती जाती है। मैं अंधकार की इस स्वीकृति को मनुष्य का सबसे बड़ा पाप कहता हूँ। यह मनुष्य का स्वयं अपने प्रति किया गया अपराध है। उसके दूसरों के प्रति किए गए अपराधों का जन्म इस मूल पाप से ही होता है। यह स्मरण रहे कि जो व्यक्ति अपने ही प्रति इस पाप को नहीं करता है, वह किसी के भी प्रति कोई पाप नहीं कर सकता है। किन्तु कुछ लोग अंधकार के स्वीकार से बचने के लिए उसके अस्वीकार में लग जाते हैं। उनका जीवन अंधकार के निषेध का ही सतत उपक्रम बन जाता है।

**SubQuestion No : 16**

Q.16 'इच्छा' शब्द में 'इक' प्रत्यय जोड़ने से बनने वाला नया शब्द कौन-सा है?

- Ans  A. इच्छिक  
 B. एच्छिक  
 C. ईच्छिक  
 D. ऐच्छिक

Question ID : 97675518491

**Comprehension:**

नीचे दिए गये गद्यांश के बाद 5 प्रश्न दिए गये हैं। इस गद्यांश को ध्यानपूर्वक पढ़ें और चार विकल्पों में से प्रत्येक प्रश्न का सर्वोत्तम उत्तर चुनें।

जीवन में बहुत अंधकार है और अंधकार की ही भाँति अशुभ और अनीति हैं। कुछ लोग इस अंधकार को स्वीकार कर लेते हैं और तब उनके भीतर जो प्रकाश तक पहुँचने और पाने की आकांक्षा थी, वह क्रमशः क्षीण होती जाती है। मैं अंधकार की इस स्वीकृति को मनुष्य का सबसे बड़ा पाप कहता हूँ। यह मनुष्य का स्वयं अपने प्रति किया गया अपराध है। उसके दूसरों के प्रति किए गए अपराधों का जन्म इस मूल पाप से ही होता है। यह स्मरण रहे कि जो व्यक्ति अपने ही प्रति इस पाप को नहीं करता है, वह किसी के भी प्रति कोई पाप नहीं कर सकता है। किन्तु कुछ लोग अंधकार के स्वीकार से बचने के लिए उसके अस्वीकार में लग जाते हैं। उनका जीवन अंधकार के निषेध का ही सतत उपक्रम बन जाता है।

**SubQuestion No : 17**

Q.17 गद्यांश में 'अंधकार' शब्द किस ओर संकेत करता है?

- Ans  A. बुराइयों और कठिनाइयों की ओर  
 B. पाप की ओर  
 C. अपराधों की ओर  
 D. गरीबी की ओर

Question ID : 97675518488

**Comprehension:**

नीचे दिए गये गद्यांश के बाद 5 प्रश्न दिए गये हैं। इस गद्यांश को ध्यानपूर्वक पढ़ें और चार विकल्पों में से प्रत्येक प्रश्न का सर्वोत्तम उत्तर चुनें।

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**SubQuestion No : 18**

Q.18 इस गद्यांश का मुख्य उद्देश्य क्या है?

- Ans
- A. तरह-तरह के लोगों की विशेषताएँ बताना
  - B. पाप और पुण्य की व्याख्या करना
  - C. अन्याय और बुराइयों को दूर करने के लिए प्रेरित करना
  - D. अन्धकार और प्रकाश का पक्ष लेना

Question ID : 97675518490

**Comprehension:**

नीचे दिए गये गद्यांश के बाद 5 प्रश्न दिए गये हैं। इस गद्यांश को ध्यानपूर्वक पढ़ें और चार विकल्पों में से प्रत्येक प्रश्न का सर्वोत्तम उत्तर चुनें।

जीवन में बहुत अंधकार है और अंधकार की ही भाँति अशुभ और अनीति हैं। कुछ लोग इस अंधकार को स्वीकार कर लेते हैं और तब उनके भीतर जो प्रकाश तक पहुँचने और पाने की आकांक्षा थी, वह क्रमशः क्षीण होती जाती है। मैं अंधकार की इस स्वीकृति को मनुष्य का सबसे बड़ा पाप कहता हूँ। यह मनुष्य का स्वयं अपने प्रति किया गया अपराध है। उसके दूसरों के प्रति किए गए अपराधों का जन्म इस मूल पाप से ही होता है। यह स्मरण रहे कि जो व्यक्ति अपने ही प्रति इस पाप को नहीं करता है, वह किसी के भी प्रति कोई पाप नहीं कर सकता है। किन्तु कुछ लोग अंधकार के स्वीकार से बचने के लिए उसके अस्वीकार में लग जाते हैं। उनका जीवन अंधकार के निषेध का ही सतत उपक्रम बन जाता है।

**SubQuestion No : 19**

Q.19 लेखक ने किसे सबसे बड़ा पाप कहा है?

- Ans
- A. प्रकाश पाने की क्षीण आकांक्षा
  - B. मनुष्य का अपने प्रति पाप न करना
  - C. अन्धकार को स्वीकार कर लेना
  - D. अंधकार को स्वीकार न करना

Question ID : 97675518489

**Comprehension:**

नीचे दिए गये गद्यांश के बाद 5 प्रश्न दिए गये हैं। इस गद्यांश को ध्यानपूर्वक पढ़ें और चार विकल्पों में से प्रत्येक प्रश्न का सर्वोत्तम उत्तर चुनें।

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**SubQuestion No : 20**

Q.20 इस अनुच्छेद का कोई उपयुक्त शीर्षक-

- Ans
- A. जीवन का अंधकार
  - B. मनुष्य की सोच
  - C. अंधकार का महत्त्व
  - D. पाप और पुण्य

Question ID : 97675518492

**Q.1** In a double riveted double covered butt joint, the strength of the joint per pitch length in shearing the rivets  $P_d$  and strength of one rivet in single shear  $P_s$  are related as:

- Ans**
- A.  $P_d = 2.5 P_s$
  - B.  $P_d = 3 P_s$
  - C.  $P_d = 2 P_s$
  - D.  $P_d = 4 P_s$

Question ID : 97675518503

**Q.2** The characteristics of air pollution control mechanism is given below.  
1. Uses electrical forces to move the particles out of the flowing gas stream onto collector plates.  
2. The particles are removed from the plate by rapping and collected in a hopper below the unit.  
Identify the control mechanism.

- Ans**
- A. Electrostatic Precipitators
  - B. Venturi scrubbers
  - C. Settling chambers
  - D. Cyclones

Question ID : 97675518510

**Q.3** A steel rod of 20 mm diameter is used as a tie member in the roof bracing system and may be subjected to possible reversal of stress due to wind load. What is the maximum permissible length of the member?

- Ans**
- A. 2250 mm
  - B. 2000 mm
  - C. 1750 mm
  - D. 3000 mm

Question ID : 97675518504

**Q.4** A body submerged in liquid is in equilibrium when:

- Ans**
- A. Its meta centre is above the centre of buoyancy
  - B. Its centre of gravity is above the centre of buoyancy
  - C. Its meta centre is above the centre of gravity
  - D. Its centre of buoyancy is above the centre gravity

Question ID : 97675518501

**Q.5** A reinforced concrete beam is subjected to the following bending moments:  
Moment due to Dead load = 60 kNm; Moment due to live load = 90 kNm; Moment due to Seismic load = 30 kNm. The design bending moment for limit state of collapse is:

- Ans**
- A. 225 kNm
  - B. 216 kNm
  - C. 180 kNm
  - D. 135 kNm

Question ID : 97675518493

**Q.6** The recommended values of compressive strength (CS) and water absorption (WA) for heavy duty burnt clay bricks of class 400 as per IS 2180 are respectively:

- Ans**
- A. CS = 45 to 50 N/mm<sup>2</sup>; WA ≤ 20 %
  - B. CS = 35 to 40 N/mm<sup>2</sup>; WA ≤ 15 %
  - C. CS = 30 to 40 N/mm<sup>2</sup>; WA ≤ 12 %
  - D. CS = 40 to 45 N/mm<sup>2</sup>; WA ≤ 10 %

Question ID : 97675518512

**Q.7** The maximum spacing of shear reinforcement (as vertical stirrups) measured along the axis of a reinforced concrete beam of width 300 mm and effective depth 500 mm, with a span 6 m is:

- Ans**
- A. 300 mm
  - B. 375 mm
  - C. 200 mm
  - D. 337.5 mm

Question ID : 97675518496

**Q.8** A closed cylindrical tank of height 2 m is partly filled with oil of relative density 0.8 to a depth of 1m, is subjected to an air pressure of 20kN/m<sup>2</sup> above the oil. Determine the total pressure (in kN/m<sup>2</sup> units) at the bottom of the tank. Take unit weight of water as 10000 N/m<sup>3</sup>

- Ans**
- A. 12
  - B. 20
  - C. 28
  - D. 20.8

Question ID : 97675518499

**Q.9** In plate girders intermediate vertical stiffeners are provided to safeguard:

- Ans**
- A. Increase self-weight of plate girder
  - B. Web against Shear buckling stress
  - C. Transfer concentrated loads on girder to the web
  - D. Web against Bending bucking stress

Question ID : 97675518507

**Q.10** In dealing with the problem of air pollution, gravitational settling chambers are generally used to remove large, abrasive particles from :

- Ans**
- A. Stack
  - B. Gas Streams
  - C. Stack & Ambient Air
  - D. Ambient Air

Question ID : 97675518511

**Q.11** Identify the air pollutant which is not produced from automobile exhaust.

- Ans**
- A. Oxides of nitrogen
  - B. Hydrogen Sulphide
  - C. Lead
  - D. Particulate dust

Question ID : 97675518508

**Q.12** Water flows with a flow rate of 0.5 cumecs through a pipe AB of length 12 m length having a uniform cross-section. The end B of the pipe is above the end A and the pipe makes an angle of  $30^\circ$  to the horizontal. For a pressure of 20  $\text{kN/m}^2$  at the end B, the corresponding pressure at the end A (in  $\text{kN/m}^2$  units) is: (Take unit weight of water as 10  $\text{kN/m}^3$ )

- Ans**
- A. 120
  - B. 32
  - C. 40
  - D. 80

Question ID : 97675518500

**Q.13** The effective length of a steel compression member of length  $l$ , restrained against translation and rotation at one end, while the other end is restrained against translation and not restrained against rotation is:

- Ans**
- A.  $0.8 l$
  - B.  $1.2 l$
  - C.  $0.65 l$
  - D.  $2 l$

Question ID : 97675518502

**Q.14** Vortex flow of irrotational motion, without any external torque the rate of change of angular momentum must be

- Ans**
- A. Zero
  - B. Two
  - C. One
  - D. Three

Question ID : 97675518498

**Q.15** According to IS 456, under limit state of collapse condition, for assessing the strength of a structure, the values of partial safety factors for steel and concrete are respectively:

- Ans**
- A. 1.15 and 1.65
  - B. 1.15 and 1.5
  - C. 0.87 and 1.2
  - D. 1.5 and 1.15

Question ID : 97675518495

**Q.16** A steel built up column is subjected to an axial force of 2000 kN. The lacing system has to be designed for resisting a transverse shear of:

- Ans**
- A. 40 kN
  - B. 20 kN
  - C. 80 kN
  - D. 50 kN

Question ID : 97675518506

**Q.17** Web crippling in I section steel beams occurs at the points where:

- Ans**
- A. Concentrated loads act
  - B. Bending moment is maximum
  - C. Deflection is maximum
  - D. Shear force is maximum

Question ID : 97675518505

**Q.18** As per Newton's Law of Viscosity the shear stress acting between two layers of fluid is:

- Ans**
- A. Directly proportional to the distance between them.
  - B. Inversely proportional to the square of the distance between them
  - C. Directly proportional to the square of the distance between them.
  - D. Inversely proportional to the distance between them.

Question ID : 97675518497

**Q.19** For 2 way continuous slabs having shorter span (less than 3.5 m), with high strength deformed bars of Fe415 grade, span to overall depth ratio of slab, to satisfy the vertical deflection limits for loading class upto  $3 \text{ kN/m}^2$ , is:

- Ans**
- A. 32
  - B. 40
  - C. 28
  - D. 35

Question ID : 97675518494

**Q.20** Identify the one which does not belong to the category of Secondary air pollutant?

- Ans**
- A. Oxides of Nitrogen
  - B. Ozone
  - C. Photochemical Smog
  - D. PAN (Peroxy Acetyl Nitrate)

Question ID : 97675518509

**Q.1** For a trapezoidal channel of specified side slope, the most economical cross-section for conveying the maximum discharge through the channel section is given by the condition:

- Ans**
- A. Top width must be equal to one of the sloping side of channel
  - B. Hydraulic radius must be equal to the depth of Flow
  - C. Twice the Top width must be equal to one of the sloping side of channel
  - D. Hydraulic radius must be equal to half the depth of Flow

Question ID : 97675518531

**Q.2** The addition of 50 decibel noise with another 50 decibel noise is equivalent to a noise of:

- Ans**
- A. 53 decibel
  - B. 73 decibel
  - C. 100 dec bel
  - D. 83 decibel

Question ID : 97675518532

**Q.3** Two statements S1, S2 pertaining to clay soils are given.

S1 : The in situ moisture content for a sensitive clay may be greater than the liquid limit, and the liquidity index is greater than one.

S2 : In many naturally deposited clay soils, the unconfined compressive strength for undisturbed clay is less than the remolded clay, at the same moisture content.

Choose the correct answer.

- Ans**
- A. Both S1 and S2 are True
  - B. S1 is False and S2 is True.
  - C. S1 is True, and S2 is False
  - D. Both S1 and S2 are False

Question ID : 97675518521

**Q.4** A father notes that when his teenage daughter uses the telephone, she takes not less than 6 minutes for a call and some times as much as 1 hour. Calls of duration 15 minutes are most frequent than calls of any other duration. If the daughters call were an activity in a PERT project, estimate the call's expected duration?

- Ans**
- A. 15 minute
  - B. 16 minute
  - C. 21 minute
  - D. 13.5 minute

Question ID : 97675518517

**Q.5** A rigid isolated footing is resting on Clay. The contact pressure at the edges and centre of the footing are respectively:

- Ans**
- A. Maximum and minimum
  - B. Minimum and maxim
  - C. Zero and maximum
  - D. Maximum and zero

Question ID : 97675518525

**Q.6** Determine the shear strength of soil (in  $\text{kN/m}^2$  units) in terms of effective stress on a plane within a saturated soil mass at a point where the total stress is  $220 \text{ kN/m}^2$  and the pore water pressure is  $120 \text{ kN/m}^2$ . The effective stress shear strength parameters for the soil are: cohesion =  $16 \text{ kN/m}^2$  and angle of internal friction =  $30^\circ$ . (take  $\sin 30^\circ = 0.5$ ,  $\tan 30^\circ = 0.6$ ;  $\cos 30^\circ = 0.9$ )

- Ans**
- A. 106
  - B. 136
  - C. 66
  - D. 76

Question ID : 97675518527

**Q.7** From the three typical cases C1, C2, C3 choose the combination, where one can expect occurrence of negative skin friction, on piles:  
 C1 : An upward drag exists in the pile  
 C2 : Develop if the filled material around pile is a loose sand deposit.  
 C3 : Lowering of ground water table resulting in consolidation of soil

- Ans**
- A. C1, C2 and C3
  - B. C1 only
  - C. C2 and C3 only
  - D. C1 and C3 only

Question ID : 97675518528

**Q.8** In project management, Critical path is identified as the one which connects the events having:

- Ans**
- A. Zero slack time
  - B. Negative slack time
  - C. Smallest path
  - D. Positive Slack time

Question ID : 97675518518

**Q.9** According to IS4954:1968, the usual noise level of the industries is in the order of:

- Ans**
- A. 130 to 165 decibels
  - B. 170 to 210 decibels
  - C. 105 to 130 decibels
  - D. 60 to 95 decibels

Question ID : 97675518529

**Q.10** Two statements S1, S2, associated with the properties of soil are given:  
 S1 : As the compaction effort is increased, the maximum dry unit weight of the compaction is also increased.  
 S2 : The co-efficient of consolidation generally increases as the liquid limit of soil increases.

Choose the correct answer.

- Ans**
- A. S1 is True, S2 is False
  - B. Both S1 and S2 are False.
  - C. Both S1 and S2 are True.
  - D. S1 is False, S2 is True

Question ID : 97675518523

Q.11 Among the following construction materials, identify the one having maximum density?

- Ans
- A. Wood
  - B. Cement
  - C. Granite stone
  - D. Steel

Question ID : 97675518515

Q.12 Which of the following is an incorrect assumption of Coulomb's Wedge Theory of Earth pressure?

- Ans
- A. The back-fill soil is dry, cohesion less, homogeneous, isotropic and ideally plastic material.
  - B. The slip surface is a plane surface which passes through the heel of the wall.
  - C. The sliding wedge itself acts as a rigid body and the value of earth pressure is obtained by considering the limiting equilibrium of the sliding wedge as a whole.
  - D. The resultant earth pressure on the wall is inclined at an angle  $(90^\circ + \delta)$  to the normal to the wall, where  $\delta$  is the angle of friction between the wall and backfill.

Question ID : 97675518526

Q.13 Dry rot is decomposition of felled timber caused by the action of:

- Ans
- A. Beetles attack
  - B. Termites attack
  - C. Fungi attack
  - D. Bacterial attack

Question ID : 97675518514

Q.14 Identify the property for which Crystallisation Test is conducted on freshly quarried stones.

- Ans
- A. Durability
  - B. Frost resistance
  - C. Toughness
  - D. Weather resistance

Question ID : 97675518513

Q.15 Among the properties of soil, identify the one which is not appropriate for determination from disturbed soil samples:

- Ans
- A. Plasticity characteristics
  - B. Shear strength
  - C. Specific Gravity
  - D. Grain size distribution

Question ID : 97675518524

**Q.16** The water content of a fully saturated soil mass is 100%. The inference about the void ratio of soil sample is:

- Ans**
- A. Greater than the specific gravity of soil
  - B. Equal to the unit weight of soil
  - C. Equal to the specific gravity of soil
  - D. Independent of the specific gravity of soil

Question ID : 97675518522

**Q.17** In civil engineering project planning, a Dummy activity is a type of operation in the network which requires:

- Ans**
- A. Time only
  - B. Both Time and resources
  - C. Resources only
  - D. No Time and Resources

Question ID : 97675518516

**Q.18** Soils carried by water and have been deposited from suspension in still water of lakes are known as:

- Ans**
- A. Aeolian deposits
  - B. Lacustrine deposits
  - C. Loess deposits
  - D. Alluvial deposits

Question ID : 97675518519

**Q.19** What will be the resultant decibel level when there are 4 sources making noise of equal levels?

- Ans**
- A. Decibel levels will remain the same
  - B. Decibel level will increase by 4 decibels
  - C. Decibel level will increase by 6 decibels
  - D. Decibel level will increase by 8 decibels

Question ID : 97675518530

**Q.20** A partly saturated sample from a borrow pit has a natural moisture content of 20% and bulk unit weight of  $24 \text{ kN/m}^3$ . Estimate the unit weight of dry soil sample (in  $\text{kN/m}^3$  units)

- Ans**
- A. 20
  - B. 24
  - C. 18
  - D. 15

Question ID : 97675518520

Q.1 In the Plane Table Surveying, Bessel's Graphical method is adopted for the solution of:

- Ans
- A. Two-point problem
  - B. Traversing problem
  - C. Three-point problem
  - D. Graphic triangulation

Question ID : 97675518549

Q.2 A triangular Direct hydrograph due to a 6 hour storm in a catchment has a time base of 100 hour and a peak flow  $40 \text{ m}^3/\text{s}$ . The catchment area is  $360 \text{ km}^2$ . The 6-hour unit hydrograph of this catchment will have a peak flow ( $\text{m}^3/\text{s}$ ) of:

- Ans
- A. 30
  - B. 20
  - C. 6.67
  - D. 10

Question ID : 97675518533

Q.3 Three pipes having diameter  $d_1$ ,  $d_2$  and  $d_3$  ( $d_1 > d_2 > d_3$ ) are connected in series. Identify the correct option pertaining to the flow through the pipes.

- Ans
- A. Reynolds number of flow for each pipe is the same.
  - B. Discharge through each pipe is the same.
  - C. Head loss in each pipe is the same
  - D. Total discharge is the sum of the discharge in the individual pipes

Question ID : 97675518537

Q.4 If the moisture content in a soil is at the field capacity of soil, the ratio of Actual Evapotranspiration (AET) to the Potential Evapotranspiration (PET) is:

- Ans
- A. Less than 1
  - B. Equal to 0.5
  - C. Equal to 1
  - D. More than 1

Question ID : 97675518543

Q.5 The Hydrologic flood routing methods employ the equations of:

- Ans
- A. Energy Equation only
  - B. Both momentum and continuity equations
  - C. Equation of Continuity only
  - D. Equation of motion only

Question ID : 97675518534

Q.6 Agonic line is the line made up of points having:

- Ans
- A. Negative declination
  - B. Zero declination
  - C. Positive declination
  - D. Same declination

Question ID : 97675518546

Q.7 A line of levels has been run from a bench mark of elevation +35.32 m and ends at another bench mark of elevation +35.35 m. The sum of back sights is 16.55 m and the sum of foresights is 16.58 m respectively. The closing error in the survey work is:

- Ans
- A. - 0.03 m
  - B. - 0.06 m
  - C. 0.03 m
  - D. 0.06 m

Question ID : 97675518550

Q.8 In defining Froude number applicable to channels of any shape, the length parameter used is:

- Ans
- A. Ratio of wetted area to top width
  - B. Wetted perimeter
  - C. Hydraulic radius
  - D. Depth of flow

Question ID : 97675518538

Q.9 Identify a Rabi Crop cultivated in India.

- Ans
- A. Barley
  - B. Groundnut
  - C. Jowar
  - D. Rice

Question ID : 97675518542

Q.10 While designing of summit curve on highways the important factor to be considered is:

- Ans
- A. Impact factor
  - B. Comfort to passengers
  - C. Sight distance
  - D. Superelevation

Question ID : 97675518552

Q.11 The equipment used for the measurement of Evapotranspiration for a given vegetation type in the fields is:

- Ans
- A. Lysimeter
  - B. Colorado sunken Evaporation pan
  - C. Pan-evaporimeter
  - D. Double ring Infiltrometer

Question ID : 97675518535

Q.12 Which one is not the characteristics of the critical state of flow through an open channel?

- Ans
- A. The discharge is minimum for a given specific Energy
  - B. The specific energy is minimum for a given discharge.
  - C. The specific force is minimum for a given discharge.
  - D. Froude number is equal to Unity

Question ID : 97675518540

Q.13 Among the sources of errors in theodolite survey listed, one of them is not considered as a natural error. Identify it:

- Ans
- A. Wind producing vibrations
  - B. Unequal atmospheric refraction due to high temperature
  - C. Inaccurate centering
  - D. Unequal settlement of tripod

Question ID : 97675518548

Q.14 Which is not suitable for setting out right angles to another line

- Ans
- A. Telescopic Alidade
  - B. Prism square
  - C. Open Cross staff
  - D. Sextant

Question ID : 97675518545

Q.15 In hydraulic modelling of flow pattern around a body submerged in a fluid the non-dimensional number which has to be kept the same in the model and prototype is:

- Ans
- A. Weber number
  - B. Strouhal number
  - C. Reynold's number
  - D. Froude number

Question ID : 97675518541

Q.16 In which year 'Motor Vehicle Act' was adopted in India

- Ans
- A. 1947
  - B. 1940
  - C. 1938
  - D. 1939

Question ID : 97675518551

Q.17 An irrigation canal that is aligned nearly parallel to the contours of the area, can irrigate area only on one side of canal, and generally constructed as a single bank canal is known as:

- Ans
- A. Detour canal
  - B. Ridge Canal
  - C. Side slope canal
  - D. Contour Canal

Question ID : 97675518544

Q.18 A streamlined body is one for which:

- Ans
- A. The separation point occurs on the far downstream part of the body
  - B. The thickness of the body is minimum
  - C. The skin friction is zero
  - D. The skin friction is minimum

Question ID : 97675518539

Q.19 The graphical plot of the intensity of rainfall against the time interval for a basin is known as:

- Ans
- A. Hydrograph
  - B. Hyetograph
  - C. Mass curve of rainfall
  - D. Unit Hydrograph

Question ID : 97675518536

Q.20 Contour lines of different elevations can unite to form one line in case of:

- Ans
- A. A cave
  - B. An overhanging cliff
  - C. A hill
  - D. Vertical cliff

Question ID : 97675518547

Q.1 The sum of all the forces acting on a body is Zero. The inference that can be deduced from it is :

Ans  A.

The body may be in equilibrium provided the forces are parallel.

B.

The body may be in equilibrium provided the forces are concurrent.

C. The body cannot be in equilibrium.

D. The body must be in equilibrium.

Question ID : 97675518568

Q.2 A solid cylinder, solid sphere, and a hoop, each of radius  $R$  and mass  $m$  are released simultaneously from rest on an incline at the same elevation. The order in which they will pass through a common mark at the same level is :

Ans  A. Cylinder, hoop, sphere

B. Hoop, Cylinder, Sphere

C. Sphere, Cylinder, Hoop

D. Cylinder, Sphere, Hoop

Question ID : 97675518572

Q.3 Under which part of the Planning Survey of Highways, "Road Life Studies" is included.

Ans  A. Financial Studies

B. Economic Studies

C. Traffic use Studies

D. Engineering Studies

Question ID : 97675518553

Q.4 Name the test on Aggregate, to determine the resistance of aggregates to weathering action:

Ans  A. Abrasion Test

B. Bitumen adhesion Test

C. Soundness Test

D. Crushing Test

Question ID : 97675518562

Q.5 Identify the factor which is not taken into account for computing the breaking distance in highways.

Ans  A. Reaction time of Driver

B. Gradient

C. Speed of Vehicle

D. Co-efficient of longitudinal friction

Question ID : 97675518554

**Q.6** Identify the test that is not commonly adopted for evaluating the strength properties of subgrade soil in pavements:

- Ans**
- A. California bearing Test (CBR)
  - B. Plate bearing Test
  - C. Dynamic Cone penetration (DCP) Test
  - D. Pressuremeter test (PMT)

Question ID : 97675518563

**Q.7** The following 2 statements (S1 and S2) pertain to design of flexible pavements:

**S1 : Most flexible pavement design procedures are based on Benkelman beam deflection measurements**  
**S2 : Elastic deflection is a practical non-destructive measure of pavement stiffness which relates well to fatigue failure.**

- Ans**
- A. S1 is False and S2 is True
  - B. Both S1 and S2 are True and S2 is the correct explanation of S1.
  - C. Both S1 and S2 are True and S2 is not a correct explanation of S1
  - D. S1 is true and S2 is False

Question ID : 97675518567

**Q.8** Which of the following is not the purpose of "Origin & Destination Studies" in Traffic Engineering?

- Ans**
- A. To judge the adequacy of existing routes and to plan new network of roads.
  - B. To establish preferential routes for various categories of vehicle including bypass.
  - C. To locate terminals and to plan terminal facilities.
  - D. To study the causes of accidents and to suggest corrective treatment at potential locations.

Question ID : 97675518556

**Q.9** The maximum super elevation to be provided on a road curve is 1 in 10. If the rate of change of super elevation is specified as 1 in 100 and the road width is 10 m, the minimum length of transition to be provided on either end of circular curve is:

- Ans**
- A. 50 m
  - B. 75 m
  - C. 125 m
  - D. 100 m

Question ID : 97675518555

**Q.10** Which of the following is not correctly matched?

- Ans**
- A. Bituminous mix design : Marshall method
  - B. Float test : Water Content in bitumen
  - C. Penetration test : Hardness or softness of bitumen
  - D. Los Angeles Test : Hardness of aggregates

Question ID : 97675518564

**Q.11** A body is acted upon by a force system. It can in general be brought to equilibrium by the application of :

- Ans**
- A. A force acting on a suitable point on the body.
  - B. A wrench acting anywhere on the body.
  - C. A force acting along a suitable line and a moment along the direction of the force
  - D. A force acting anywhere along a suitable line

Question ID : 97675518569

**Q.12** What is the height of free fall of hammer in the Aggregate Impact Test?

- Ans**
- A. 30 cm
  - B. 38 cm
  - C. 35 cm
  - D. 45 cm

Question ID : 97675518561

**Q.13** According to Indian Road Congress (IRC), for the design of traffic control signals, the pedestrian green time required for the major and minor roads are calculated based on walking speed of:

- Ans**
- A. 0.5 m/s
  - B. 1.5 m/s
  - C. 1.2 m/s
  - D. 1.0 m/s

Question ID : 97675518559

**Q.14** Two statements S1 and S2 pertaining to D'Alembert Principle in Mechanics is given.  
S1 : It states that the net external Force F actually acting on the body and the inertia force  $F_i$  together keep the body in a state of fictitious dynamic equilibrium.  
S2 : This is a hypothetical principle and is independent of Newton's law of motion.

Choose the correct answer

- Ans**
- A. Both S1 and S2 are True
  - B. Both S1 and S2 are False.
  - C. S1 is True and S2 is False.
  - D. S1 is False and S2 is True.

Question ID : 97675518571

**Q.15** As per the IRC guidelines for design of flexible pavements by CBR method, the load parameter required is:

- Ans**
- A. Number of vehicles (all types) during the design life
  - B. Cumulative standard axles in msa
  - C. Equivalent single axle load
  - D. Number of commercial vehicles per day

Question ID : 97675518560

Q.16 Which type of traffic survey details are plotted by desire lines ?

- Ans
- A. Speed and delay
  - B. Classified volume
  - C. Origin and destination
  - D. Accidents

Question ID : 97675518558

Q.17 Given the following parameters for a concrete pavement:

$r$  – radius of load distribution,  $P$  – wheel load,  $h$  – thickness of slab,  $\mu$  - Poisson's ratio of concrete,  $E$  – modulus of elasticity of concrete,  $K$  – modulus of subgrade reaction.

The combination of parameters required for estimating the Radius of relative stiffness of concrete slab is :

- Ans
- A.  $P, h, K, \mu$
  - B.  $E, h, K, \mu$
  - C.  $h, K, \mu, r$
  - D.  $E, K, \mu, r$

Question ID : 97675518565

Q.18 Identify the traffic signs which do not come under the category of a Regulatory Sign.

- Ans
- A. Prohibitory signs
  - B. Stop and give-way signs
  - C. No Parking & No Stopping Signs
  - D. Warning signs

Question ID : 9767551857

Q.19 The point of contraflexure in a loaded beam subjected to bending action is one where :

- Ans
- A. The shear force changes sign
  - B. The bending moment is maximum
  - C. The shear force is maximum
  - D. The bending moment changes sign

Question ID : 97675518570

Q.20 The recommended maximum spacing of contraction joints in 15 cm thick reinforced slabs of rigid pavements, for highways as per IRC 15 : 1981 is ....

- Ans
- A. 13 m
  - B. 12 m
  - C. 10 m
  - D. 14 m

Question ID : 97675518566

Q.1 A water sample contains  $10^{-9}$  ml/litre of  $\text{OH}^-$  ions at  $25^\circ\text{C}$ . The pH of this sample is :

- Ans
- A. 12
  - B. 2
  - C. 9
  - D. 5

Question ID : 97675518582

Q.2 In which method of forecasting population, the percentage increase in population from decade to decade is assumed to be constant.

- Ans
- A. Geometrical increase method
  - B. Incremental increase method
  - C. Logistic Curve method
  - D. Arithmetical increase method

Question ID : 97675518579

Q.3 In sewerage system drop manholes are provided when there is a:

- Ans
- A. Sloping ground, with drop more than 0.6 m is required to control the gradient.
  - B. Change in alignment of sewer line
  - C. Change in size of sewers
  - D. Change from gravity system to pressure system

Question ID : 97675518583

Q.4 The major constituent gases produced from a land fill site are:

- Ans
- A. Hydrogen sulphide and oxygen
  - B. Carbon monoxide and nitrogen
  - C. Ammonia and Hydrogen
  - D. Carbon dioxide and methane

Question ID : 97675518591

Q.5 The anaerobic fermentation of biodegradable matter in an enclosed space under controlled conditions of temperature, moisture, pH, etc. The waste mass undergoes decomposition due to microbial activity, thereby generating biogas comprising of methane and carbon dioxide, and also digested sludge. Which of the following options is described here?

- Ans
- A. Biomethanation
  - B. Incineration
  - C. Plasma Pyrolysis Vitrification
  - D. Autoclaving

Question ID : 97675518592

**Q.6** Which is the least preferred strategy of Integrated Solid waste Management according to their Environmental benefits?

- Ans**
- A. Land fills
  - B. Composting
  - C. Waste to Energy
  - D. Recycling

Question ID : 97675518590

**Q.7** A bar of length  $L$  and cross-section area  $A$  is subjected to a gradually applied load  $P$ . Another bar of the same material, having the same length  $L$ , and cross section area  $2A$  is also subjected to a gradually applied load  $Q$ . If the strain energy stored in the two bars are the same, then the ratio  $\frac{P}{Q}$  is:

- Ans**
- A.  $\frac{1}{\sqrt{2}}$
  - B.  $\sqrt{2}$
  - C.  $\frac{1}{2}$
  - D. 2

Question ID : 97675518574

**Q.8** The following statements  $S_1$  and  $S_2$  pertain to water treatment scheme.

$S_1$  : The efficiency of sedimentation process, depends on the difference of specific gravities of the particle and the medium.  
 $S_2$  : Disinfection being the last process in the treatment scheme, is not affected by poor coagulation and flocculation.  
 Choose the correct answer.

- Ans**
- A.  $S_1$  is True and  $S_2$  is False
  - B.  $S_1$  is False and  $S_2$  is True
  - C. Both  $S_1$  and  $S_2$  are False
  - D. Both  $S_1$  and  $S_2$  are True

Question ID : 97675518581

**Q.9** The features of anaerobic digestion of sewage are given. Identify the incorrect one.

- Ans**
- A. Reduces odour/ flies problem.
  - B. Reduction in volume of sludge and improving the dewatering characteristics of the sludge, makes it easy to dry.
  - C. High operating cost,
  - D. Reduce production of landfill greenhouse gases when otherwise these untreated sludge is disposed on landfill

Question ID : 97675518584

**Q.10** The result of analysis of raw water sample from a source are given below.  
Turbidity : 3.5 NTU  
pH : 7.4  
Fluoride : 1.0 mg/l  
Total Hardness : 350 mg/l  
Iron : 2.7 mg/l  
MPN : 60 per 100 ml  
For the above data, treatment has to be provided to the water for the removal of :

- Ans**
- A. Turbidity, fluoride, and hardness
  - B. Hardness, Iron, followed by disinfection
  - C. Turbidity, fluoride, hardness, Iron, followed by disinfection
  - D. Iron followed by disinfection

Question ID : 97675518580

**Q.11** The beneficial association between algae and bacteria known as Symbiosis, has been made use for the treatment of waste water in the following unit:

- Ans**
- A. Activated Sludge tank
  - B. Oxidation pond
  - C. Imhoff tank
  - D. Anaerobic digester

Question ID : 97675518585

**Q.12** Which of the following methods is not used for the disposal of hospital waste?

- Ans**
- A. Electroplyrolysis
  - B. Landfilling
  - C. Incineration
  - D. Thermal treatment

Question ID : 97675518589

**Q.13** A thin spherical shell is subjected to an internal pressure  $p$ . What is the ratio of volumetric strain to circumferential strain in shell ?

- Ans**
- A. 0.5
  - B. 2
  - C. 1
  - D. 3

Question ID : 97675518573

**Q.14** The major and minor principal stresses at a point on a body are 10 MPa and -10 MPa respectively. Determine the maximum shear stress at the point (in MPa units)

- Ans**
- A. 20
  - B. Zero
  - C. 5
  - D. 10

Question ID : 97675518576

**Q.15** The analysis of a Kinematically Indeterminate Structure by Stiffness Matrix method is also known as :

- Ans**
- A. Force method
  - B. Displacement method
  - C. Flexibility matrix method
  - D. Compatibility Method

Question ID : 97675518578

**Q.16** What is the ILD (Influence Line Diagram) of a three hinged Arch of Span 'L' and rise 'h' due to horizontal thrust 'H'

- Ans**
- A. Triangle with its maximum ordinate at center equals to  $\frac{L}{24h}$
  - B. Square with its ordinate equals to  $\frac{L}{24h}$
  - C. Square with its ordinate equals to  $\frac{L}{2h}$
  - D. Triangle with its maximum ordinate at center equals to  $\frac{L}{4h}$

Question ID : 97675518577

**Q.17** What is the Mass Moment of Inertia of a Metallic Circular Plate of uniform thickness 't', radius 'R' and mass density 'ρ', about an axis passing through its planar surface.

- Ans**
- A.  $0.25 t \rho \pi R^4$
  - B.  $0.5 t \rho \pi R^2$
  - C.  $0.25 t \rho \pi R^3$
  - D.  $0.25 t \rho \pi R^2$

Question ID : 97675518575

**Q.18** The following statements S1 and S2 pertain to two procedures for disposal of Municipal solid Waste.

S1 : Gasification is the conversion of waste and biomass into liquid and gaseous fuel as well as solid residues and char at 500°C-1000°C in absence of air.

S2 : Pyrolysis is a partial combustion of organic or fossil based carbonaceous material, plastics, etc. into carbon monoxide, hydrogen, carbon dioxide, and methane, at a temperature of 650°C, with controlled amount of air/oxygen.

Identify the correct answer.

- Ans**
- A. S1 is False and S2 is True
  - B. Both S1 and S2 are False
  - C. Both S1 and S2 are True
  - D. S1 is True and S2 is False

Question ID : 97675518588

**Q.19** Which of the following Rules / policies / Schemes is not Initiated by the Govt. of India in the year 2008

- Ans**
- A. Plastic waste Rules
  - B. National Urban sanitation policy
  - C. National Mission on Sustainable Habitat
  - D. Hazardous waste Rules

Question ID : 97675518586

**Q.20** In the aerobic composting process, when the C/N (Carbon to Nitrogen) ratio of Municipal solid Waste is less than 25 : 1, identify the material which is added to it to increase the C/N value, to avoid the production of foul smell.

- Ans**
- A. Slaughter House Waste
  - B. Non-edible oil cakes
  - C. Green biomass
  - D. Saw dust

Question ID : 97675518587

