MAT 2020 Question Paper

Time Allowed :150 minutes	Maximum Marks :200	Total questions :200

> ### General Instructions
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> **Read the following instructions very carefully and strictly follow them :**
>
> (i) This are total 200 questions in this question paper.
>
> (ii) This question paper is divided into five sections — Language Comprehension, Intelligence & Critical Reasoning, Mathematical Skills, Data Analysis & Sufficiency, Indian & Global Environment. Each section comprises 40 questions.
>
> (iii) For each correct answer 1 mark will be awarded .
>
> (iv) For Each wrong answer -1/4th mark (0.25 mark) will be deducted and no marks will be given to unattempted questions.

SECTION-I:

LANGUAGE COMPREHENSION

Directions (Question 1-2): Study the given passage to answer the questions that follows the passage.

Passage

Until a hundred years ago as humans we had a simple, uncomplicated biological connect. It was a straightforward equation: we drew roughly 3,000 calories each of energy out of the Earth for our food and life's sustenance. Today that number per capita has grown to 1,00,000 calories. We still need only 3,000 calories each to nourish life itself. All the rest of this energy is what we extract from the Earth for everything else besides keeping ourselves alive. In some countries, like the US, this per capita number runs at over 2,00,000 calories. Some of us are concerned about this. We fret over what we could — and should — really be doing to soften this abuse of resources. Little things fox us in the welter of things that we get to read. What is sustainable development? How can it be started at our homes? Beyond the ceremonial planting of green and getting people to run marathons of various lengths in

support of the environment, is there more that we can add to the abstract value of sustainability'? What are the little things we can do in our day-to-day lives, to reduce demand for things that people make and market? Of course, we know that it helps to avoid a plastic bag when you can use a newspaper bag, or a brown bag, or even a jute bag which you can use for many more years unlike a plastic bag which you throw away in less than a week or after a few uses. However, there's actually quite a bit more that you and I can do, without compromise on comfort, with very little as cost incurred, with financial savings that you can gain on energy and water use, and with solutions that are very feasible and within your reach. It is possible to understand our ecological footprint and its disastrous consequences, not merely in terms of our own behaviour as consumers, but really in terms of the impact on the environment we make.

1. What is the primary concern of the passage?

(1) Use of plastic bags should be completely banned.

(2) There is a need to save energy, especially for our future.

(3) All of us should not only plant trees but also run the marathon.

(4) We need to respect the Earth and consume less of its calories.

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2. Which one of the following statements cannot be inferred from the passage?

(1) We do not depend on the Earth for our food and life sustenance.

(2) There are many little things we can do to save our Earth.

(3) Only running marathons of various lengths does not help.

(4) A lot many years before, our association with the Nature was quite simple.

Directions (Question 3): In this question, a sentence has been broken into four parts. Choose the part that has an error.

3. Choose the grammatically incorrect sentence in the given options:

(1) The hardy colonist and the trained European who fought at his side,

(2) frequently expended months in struggling against the rapid of the streams,

(3) or in effecting the rugged passes of the mountains,

(4) in quest of an opportunity to exhibit their courage in a more martial conflict.

Directions (Question 4): In this question, choose the option which can be substituted for the given words.

4. To form a plot or scheme, especially one to do something wrong or wicked, or designed to cause harm.

(1) Machete

(2) Machinate

(3) Conspire

(4) Fatal

Directions (Question 5): Choose the option to fill in the blanks.

5. We _____ to inform you that we cannot include your thesis in our library, on the _____ of not receiving permission from your supervisor.

(1) repent, justification

(2) saddened, reason

(3) lament, pretext

(4) regret, grounds

SECTION-II:
INTELLIGENCE AND CRITICAL REASONING

Directions (Question 6): Study the given information carefully to answer the question. From among the five doctors l, 2, 3, 4 and 5, four engineers G, H, K, L and six teachers M, N, O, P, Q and R, some teams are to be selected. Of these 1, 2, G, H, O, P, Q are females and the rest are males. The formation of teams is subject to the following conditions. Wherever there is a male doctor, there will not be a female teacher. Wherever there is a male engineer, there will not be a female doctor. There shall not be more than two male teachers in any team.

6. If the team consists of two doctors, two female teachers and two engineers, then all the following teams are possible except:

(1) 1, 2, K, L, P, Q

(2) 1, 2, G, H, P, Q

(3) 1, 2, G, H, O, Q

(4) O, P, G, H, 1, 2

Directions (Question 7): The given question has a statement followed by two conclusions I and II. Decide which of the conclusions follows from the statement. Mark answer as

(1) if conclusion I follows

(2) if conclusion II follows

(3) if neither conclusion I follows nor II follows

(4) if both conclusions I and II follow

7. Statement :

The doctor is of the opinion that the patient's condition would become normal after this operation.

Conclusions: I. The patient's condition is such that he can be operated upon.

II. Certain costly medicines can be administered to the patient and the operation may not be necessary.

Directions (Question 8): For the Assertion (A) and Reason (R) below, choose the correct alternative from the following:

(1) Both (A) and (R) are true and (R) is the correct explanation of (A).

(2) Both (A) and (R) are true but (R) is not the correct explanation of (A).

(3) (A) is true but (R) is false.

(4) (A) is false but (R) is true.

8. Assertion (A): Harmonious industrial relations are necessary for faster economic development of a country.

Reason (R): Good relations keep the wheels of production rolling.

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9. Varun is the brother of Meghna and Nikhil, Prerna is the mother of Nikhil. Raghu is

the father of Varun. Which of the given statements cannot be said to be definitely true?

(1) Varun is the son of Prerna.

(2) Raghu is the husband of Prerna.

(3) Raghu is the brother of Meghna.

(4) Prerna is the mother of Varun.

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10. Pointing to Abhishek, Seema said, "His father is the only son of my grandfather." How is Seema related to Abhishek?

(1) Niece

(2) Mother

(3) Sister

(4) Daughter

SECTION-III:

MATHEMATICAL SKILLS

11. Three taps A, B and C can fill a tank in 12, 15 and 20 hours respectively. If tap A is open all the time and tap B and tap C are open for one hour each alternately, the tank will be filled in

(1) 7 hours

(2) 6 hours

(3) 5 hours

(4) None of these

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12. A sum was put at simple interest at a certain rate for 3 years. Had it been put at 1% higher rate, it would have fetched ₹5,100 more. The sum is _____.

(1) ₹1,50,000

(2) ₹1,70,000

(3) ₹1,25,000

(4) ₹1,20,000

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13. Two times a two-digit number is 9 times the number obtained by reversing the digits and the sum of the digits is 9. The number is _____.

(1) 54

(2) 72

(3) 63

(4) 81

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14. In measuring the sides of a rectangular plot, one side is taken 5% in excess and the other 6% in deficit. The error percent in area calculated, of the plot, is _____.

(1) 1.3%

(2) 1%

(3) 1.5%

(4) 3%

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15. Shiva invested a certain sum of money in a simple interest bond whose value grew to ₹300 at the end of 3 years and to ₹400 at the end of another 5 years. What was the rate of interest at which he invested his sum?

(1) 12.5%

(2) 12%

(3) 6.67%

(4) 8.33%

SECTION-IV:

DATA ANALYSIS & SUFFICIENCY

Directions (Question 16-17) : Study the following pie-graphs carefully to answers the question.

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There are seven different types of tyres manufactured by a factory. The pie charts show the percentage of sales of the tyres in a city in two consecutive months April and May. The total number of type B tyre sold in April and May were 1560 and 2250 respectively.

April

E 17%
F 8%
G 12%
A 3%
B 13%
C 22%
D 25%

MAY

F 13%
G 12%
E 10%
A 5%
B 15%
C 25%
D 20%
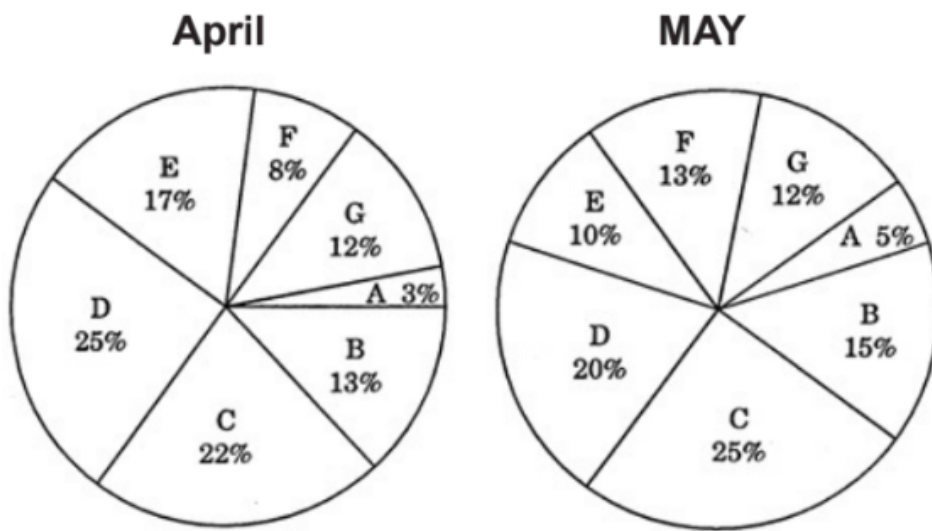
16. What is the maximum difference between the numbers of tyres of any two types sold taken together for April and that of other two types sold for May?

(1) 3390

(2) 5430

(3) 4523

(4) 4230

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17. What is the difference in total sales between April and May in respect of only those types where there was an increase in sale?

(1) 6520

(2) 3540

(3) 4530

(4) None of these

Directions (Question 18): Study the following information carefully to answer the question.

Ram sold 10 acres of land to Mani and Dinesh who paid him the total amount in the

ratio of 2 : 3. Mani invested a further '3 lakh in the land for the purpose of planting coconut and lemon trees in the ratio of 4:1. These trees were planted on equal areas of land. There were a total of 200 lemon trees. The sale price of one coconut was '10 in 2019. The crop took 7 years to mature and when the crop was reaped in 2019, the total revenue generated was 50total initial amount put in by Mani and Dinesh together. The revenue generated from the coconut and lemon trees was in the ratio of 5 : 4 and it was shared equally by Mani and Dinesh as the initial amount spent by them was equal.

18. How many coconuts were reaped?

(1) 24000

(2) 50000

(3) 25000

(4) 19000

Directions (Question 19) : This question is consist of a question and two statements I and II. Decide whether the data provided in the statements are sufficient to answer the question. Mark answer as

(1) if the data in statement I alone are sufficient to answer the question, while the data in statement II alone are not sufficient to answer the question.

(2) if the data in statement II alone are sufficient to answer the question, while the data in statement I alone are not sufficient to answer the question.

(3) if the data in both statements I and II are required to answer the question.

(4) if the data in both statements I and II together are not sufficient to answer the question.

19. Mr. Rahim invested his saving in term deposit of three different limited companies. If the average size of 3 term deposits is '3 crore, is the smallest deposit less than '2.5 crore?

I. The highest term deposit is '3.9 crore.

II. There are two more term deposits other than the highest term deposit. One of the two term deposits is '2.1 crore.

Directions (Question 20) : This question is consist of two quantities, quantity A and

quantity B. Compare the two quantities and mark answer as

(1) if the quantity A is greater.

(2) if the quantity B is greater.

(3) if the two quantities A and B are equal.

(4) if comparison cannot be made from the given information.

20. Quantity A: Net change when wages of workers were increased by 20% and then reduced by 10%.

Quantity B: Net change when wages of workers were reduced by 10% and then increased by 20%.

SECTION-V:

INDIAN AND GLOBAL ENVIRONMENT

21. In Indian history, the first discovery of Rock Paintings in India was made in _____.

(1) 1867-68

(2) 1885-86

(3) 1901-02

(4) 1957-58

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22. Which of the following census years is called the 'year of the demographic divide' in India?

(1) 1901

(2) 1871

(3) 1921

(4) 2001

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23. The Union Ministry of Health and Family Welfare has recently launched India's first indigenous rotavirus vaccine named 'Rotavac' to combat infant mortality due to

(1) Polio.

(2) Measles.

(3) Tetanus.

(4) Diarrhea.

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24. Who introduced the 'Doctrine of Lapse' in India?

(1) Lord Canning

(2) Lord Hastings

(3) Lord Bentinck

(4) Lord Dalhousie

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25. In economics, Minimum Support Price (MSP) is the

(1) minimum wage offered to the workers in the organized sector.

(2) price at which the government buys agricultural output from the farmers.

(3) minimum price the producers demand to sell their goods.

(4) None of these