

Applied Mathematics M.C.Q's (from 1 to 20)

Time: 35 Minutes

Questions on Page Numbers: 1 To 4

Negative Markings: **Yes**

Q1 Arshad alone can complete a task in 20 days and Raheem can complete the same task in 6 days. Arshad initially starts working on the task alone for the first nine days. However after that he suffers an injury which will make him take thrice the time to complete the task. Raheem joins Ahmed (who has been injured) on the tenth day and they together complete the task. At the end of the task they are paid a sum of Rs 60, 000 which they decide to share between themselves in the proportion of the work done. How much money is Raheem entitled to?

- A) Rs 1000
- B) Rs 1500
- C) Rs 3000
- D) Rs 4500

Q2 Pipe A can fill a tank in 6 hours. Pipe B can empty the same tank in 3 hours. If the tank is initially one third full then in how many hours will the tank be completely empty in if both the pipes are turned on simultaneously?

- A) 2 hours
- B) 3 hours
- C) 4 hours
- D) 5 hours

Q3 What is the value of x if $(-3)^{(x+1)} = -243$?

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

Q4 If 3 miles are equivalent to 4.83 kilometers, then 14.49 kilometers are equivalent to how many miles?

- A) 1.76
- B) 5.9
- C) 7
- D) 9

ALL ANSWERS MUST BE GIVEN ON THE ANSWER SHEET BY CROSSING THE CORRESPONDING LETTER

Q5 The arithmetic mean of three numbers is $m + 3$. If one of the numbers is 10, what is the arithmetic mean of other numbers?

- A) $3m - 1$
- B) $1.5m - 0.5$
- C) $m - 7$
- D) None of these

Q6 The diameter of a circle is increased by 200%. By what percent has the area of the circle increased?

- A) 80%
- B) 200%
- C) 300%
- D) 800%

Q7 If $\frac{9x-3}{2x+1} = \frac{6x+2}{3x+1}$, what is the value of x ?

- A) 1
- B) -1
- C) $\frac{-1}{3}$
- D) None of these

Q8 The average of the first eight multiples of 8 (starting from 8) is:

- A) 30
- B) 32
- C) 34
- D) 36

Q9 A train 180m long is running at a uniform speed and passes a telegraph pole in 5 seconds. Find the time taken by it to cross a railway platforms which is also 180m long when it does not stop at the platform and continue to run at the same uniform speed.

- A) 5 seconds
- B) 7 seconds
- C) 10 seconds
- D) 12 seconds

(go on to the next page)

ALL ANSWERS MUST BE GIVEN ON THE ANSWER SHEET BY CROSSING THE CORRESPONDING LETTER

Q10 Faheem receives a base salary of Rs 9000 weekly plus a 15% commission on all sales. He had Rs 30, 000 in sales this week. How much did Faheem make in total?

- A) Rs 13, 500
- B) Rs 31, 350
- C) Rs 10, 500
- D) Rs 30, 450

Q11 A Mother's age after 10 years will be thrice the age of her daughter now. The sum of their ages 6 years ago was 56. What is the ratio of the current ages of the mother and the daughter?

- A) 25:3
- B) 3:25
- C) 14:3
- D) 3:14

Q12 A class of 80 students contains only seniors and juniors. If 35% of the students are junior, what is the ratio of the number of seniors to the number of juniors in the class?

- A) 13:7
- B) 7:13
- C) 16:7
- D) 7:16

Q13 Three lottery winners A, B & C are sharing a lottery jackpot. A's share is $\frac{1}{6}$ of B's share and $\frac{1}{9}$ of C's share. If the total jackpot is \$480,000, what is the dollar amount of B's share?

- A) \$18,000
- B) \$27,000
- C) \$30,000
- D) None of these

Q14 A man completes a journey in 16 hours. He travels during first 8 hours of the journey at the rate of 120 km/hr and during the remaining hours of the journey at the rate of 88 km/hr. Find the total distance that the man covered during the journey?

- A) 1600 km
- B) 1664 km
- C) 1920 km
- D) None of these

(go on to the next page)

ALL ANSWERS MUST BE GIVEN ON THE ANSWER SHEET BY CROSSING THE CORRESPONDING LETTER

Q15 The average of 80 numbers is zero. Of them, at the most, how many can be greater than zero?

- A) 0
- B) 1
- C) 79
- D) 80

Q16 Which of the following is equal to 6.78×10^{-3} ?

- A) 0.00678
- B) 678
- C) 0.0678
- D) 6780

Q17 How many numbers are there between 1 and 61 which are divisible by 6 or 9?

- A) 13
- B) 14
- C) 15
- D) 16

Q18 If $4x^2 + 9y^2 = 9$ and $(2x - 3y)^2 = 27$, where x and y are both real numbers, then

- A) x and y are both positive
- B) x and y are both negative
- C) $x = y$
- D) None of these

Q19 There are four numbers. Average of the first three is 15 and that of the last three is 16. If the last number is 19 find the first number:

- A) 22
- B) 20
- C) 18
- D) 16

Q20 What is the difference between the sum of all positive odd integers less than 1000 and the sum of all positive even integers less than 1000?

- A) 498
- B) 499
- C) 500
- D) 501

(Stop. Do not turn over this page until you are told to do so.)

English M.C.Q's (from 21 to 40)

Time: 25 Minutes

Questions on Page Numbers: 5 To 9

Negative Markings: **Yes**

Questions 21-25: Please read the excerpt below with care and select the best possible answer.

If you open a history of Britain at random, it will tell you two things about the period you chance on: that it was a time of rapid change, and that the middle classes went on rising. Rising is what God put the middle classes on Earth to do. In fact, according to an illuminating study, they have now risen to the point where they outnumber the working class. Whether this is true depends of course on how you define these categories. Marx thought that the proletariat would overthrow capitalism, but he did not think that this was because it formed a majority of the population. In fact, he was well aware that factory workers did not even constitute the majority of the working class, let alone of the nation as a whole. Most working people in Victorian Britain were domestic servants, of whom a large majority were women. Most of those who laboured in Marx's day were not blue-collar male but white-petticoated female. The word proletariat derives from the Latin word for offspring, meaning those who were too poor to serve the state with anything but the potential workers they produced from their wombs. Today, in a world of postcolonial sweatshops and agricultural labour, the typical proletariat is still a woman.

21. According to this passage, a history of Britain will inform you of which of the following?

- a) that the period being discussed was static and that the middle classes were rising
- b) that the period being discussed was mercurial and that the middle classes were marginalized
- c) that the period being discussed was undergoing a swift transformation and that the middle classes were expanding
- d) that the period being discussed was undergoing a swift transformation and that the middle classes were marginalized

22. The word illuminating (underlined in the paragraph) means:

- a) luminous and pliable
- b) luminous and liable
- c) derogatory
- d) informative

23. The word proletariat (underlined in the paragraph) means:

- a) provincial
- b) the working class
- c) the polity
- d) citizenry

24. This passage suggests that the proletariat in Victorian Britain consisted primarily of:

- a) domestic workers
- b) factory workers
- c) the working class
- d) blue-collar workers

ALL ANSWERS MUST BE GIVEN ON THE ANSWER SHEET BY CROSSING THE CORRESPONDING LETTER

25. By stating that the etymological roots of proletariat lie in the Latin word for offspring, the author is trying to say that the working class comprises of:

- a) single mothers
- b) widowed mothers
- c) women
- d) mothers

Questions 26-30: The sentences, please select the *best* sequence of sentences

26.

1. Perhaps this suggests that there are limits to the prime minister's resentment of the posh boys.
2. Not even she could bring herself to turn Eton into an old people's home.
3. The solution is to "make Britain the world's Great Meritocracy."
4. The aforementioned seems not to include abolishing private education.
5. The greatest injustice in Britain today, it is revealed, is that people's lives are still largely determined by where they come from and what school they attend.

- a) 12345
- b) 43521
- c) 12435
- d) 53412

27.

1. Had the SC not disqualified Nawaz Sharif, it wouldn't have just been a lost game for Imran Khan.
2. Prior to the Supreme Court's verdict, everyone hoped that justice would prevail and set an example for the next generation to come.
3. Martin Luther King Jr. said, "Injustice anywhere is a threat to justice everywhere."
4. The verdict is a triumphant victory for Pakistan.
5. Additionally, it would have been a lost game for the whole of Pakistan.

- a) 12345
- b) 32154
- c) 23154
- d) 54231

28.

1. Of some 18 major and minor mass extinctions since the dawn of complex life, most happened at the same time as a rare, epic volcanic phenomenon called a Large Igneous Province (LIP).
2. Coincidence doesn't prove causality.

ALL ANSWERS MUST BE GIVEN ON THE ANSWER SHEET BY CROSSING THE CORRESPONDING LETTER

3. Many of those extinctions were also accompanied by abrupt climate warming, expansion of ocean dead zones and acidification, like today.

4. Earth's most severe mass extinction, the "Great Dying," began 251.94 million years ago at the end of the Permian period, with the loss of more than 90% of marine species.

5. However, when the same two things happen together over and over again through the vast span of geological time, there must be a causal link.

a) 12345

b) 25134

c) 54123

d) 32451

29.

1. But Hussain didn't just step up out of nowhere to try and kill Siddiqui.

2. She cut off all communication between them, but he hacked her social media accounts and continued to harass her.

3. Finally, one day he drew up alongside her car, wearing a motorcycle helmet and armed with a knife.

4. Last year, Pakistani law student Khadija Siddiqui was stabbed 23 times by a classmate named Shah Hussain, leaving her lying on the road in a pool of her own blood.

5. They'd been friends in law school until Hussain became "coercive" against Siddiqui.

a) 12345

b) 25413

c) 41523

d) 52413

30.

1. But as ever where Venezuela is concerned, there is also conflict.

2. Firstly, it is important to note that for academics on the left, broadly supportive of Chavismo's aims, this democratic slide has been a cause for much heartache and soul-searching.

3. While some felt that Chávez's project has failed, others thought that Venezuela's problems are "not the result of too much socialism, but too little".

4. The leadership of the Latin American Studies Association issued a statement calling on the government to respect the 1999 constitution.

5. They received a reply from dozens of its 12,000 members rejecting their framing of the issue.

a) 12345

b) 52413

c) 15243

d) 21453

ALL ANSWERS MUST BE GIVEN ON THE ANSWER SHEET BY CROSSING THE CORRESPONDING LETTER

Questions 31-35. For each of the following sentences, please assess whether the underlined portion is grammatically correct. If it is, select option 'A'. If it isn't, please select the best option, 'B', 'C', or 'D' below.

31. A black market for foreign currency had mushroomed up to meet unsatisfied demand, making it extremely profitable to get your hands on cheap dollars sold by the state.

- a) had mushroomed up
- b) had marooned up
- c) had blossomed up
- d) had sprung up

32. Multiple sclerosis is an autoimmune disease that is caused by a victim's immune system turning on and destroying parts of his own body.

- a) turning on and destroying
- b) turning on and proliferating
- c) turning on extinguishing
- d) turning on and mitigating

33. Success is important to sustain women's football, already the fourth-largest team sport in England – measured by participation – after men's football, rugby and cricket.

- a) to sustain
- b) to appertain
- c) to preordain
- d) to coup de main

34. The United States is only two generations removed from the enterprise of segregation enforced by law in higher education.

- a) the enterprise
- b) the scourge
- c) the initiative
- d) the achievement

35. What inert the immune system to behave in this way remains mysterious, but in the 1970s researchers uncovered a promising clue when they noticed that MS is rarer near the equator than it is at high latitudes

- a) inert
- b) thrives
- c) paralyses
- d) drives

ALL ANSWERS MUST BE GIVEN ON THE ANSWER SHEET BY CROSSING THE CORRESPONDING LETTER

Questions 36-45. Each sentence below contains either one error or no error at all. Please select the option that indicates the error; if there is no error, select option D.

36. The concept of affirmative action was meant to assist in the healing process by mandating that

A

B

businesses make up for patterns of discrimination by hiring black workers at a certain proportion of

C

their workforce. No error.

D

37. The Chief Justice of Pakistan Saqib Nisar has disjoined Justice Ijazul Ahsan as the "monitoring

A

B

judge to supervise and monitor the implementation" of the Panamagate case. No error.

C

D

38. The Karachi Port Trust (KPT) has failed to provide the country's biggest Keamari port with proper

A

and permanent road connectivity even after a lapse of 10 years, causing frequent preternatural calm

B

C

over the Jinnah Bridge and the connecting arteries. No error.

D

39. Sindh Home Minister Sohail Anwar Sial applauded seven station house officers (SHOs) of the

A

provincial police in Karachi over their alleged failure to control street crime and misbehaviour with

B

complainants on Wednesday. No error.

C

D

40. The number of bank inaugurations in the metropolis has dropped significantly in the past two

A

B

years mainly due to proactive policing and ongoing Rangers-led operations, but the off-and-on strikes

C

by bandits remain a challenge for the investigators. No error.

D