S@ifur's

IBA
M B A
(ভর্তি পরীক্ষার প্রশ্ন ব্যাংক ও সমাধান)

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| 30 questions | Section I: Mathematics | 30 marks |

Directions: *Solve each of the following problems and mark the correct answer on your Answer Sheet.* **DO NOT USE A CALCULATOR.** *Figures are drawn to scale.*
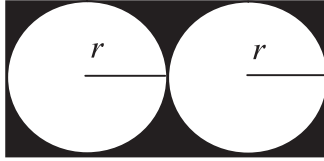
01. If $A = \frac{2}{3} B$, $B = \frac{2}{3} C$, and $C = \frac{2}{3} D$, what part of D is B?

    (A) $\frac{8}{27}$ (B) $\frac{4}{9}$ (C) $\frac{2}{3}$ (D) 75%   (E) $\frac{4}{3}$

02. A picture measuring 16cm × 24cm has a frame 1 cm wide on all sides. About how many times greater than the area of frame is area of the picture?

    (A) 1.2   (B) 4.5   (C) 12   (D) ?   (E) 80

03. The price of a front circle seat in a cinema hall is $\frac{1}{3}$ the price of a rear circle seat. The cinema has only these two types of seat. When completely sold out, the total receipts from the 600 rear circle seats and the 450 front circle seats are Tk. 4500. What is the price of one rear circle seat?

    (A) Tk. 2.00   (B) Tk. 2.30   (C) Tk. 4.00   (D) Tk. 6.00   (E) Tk. 10.00

04. In triangle *ABC, AB = AC,* All of the following statements are true except

    (A) *AB < AC + BC*   (B) *AC < AB + BC*   (C) *BC < AB + AC*
    (D) *AC + BC = AB + BC*   (E) *BC + AC > AB + BC*

05. Last year 60 students enrolled in the Business Communication course. Of the enrolled students, 90% took the final exam. Two-thirds of the students who took the final exam passed in final exam. What percentage of the enrolled students did not pass in the exam?

    (A) 40%   (B) 45%   (C) 60%
    (D) 75%   (E) cannot be determined

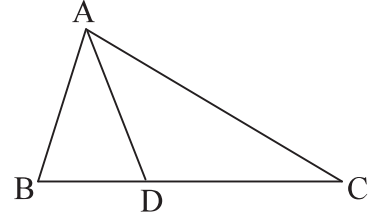| S@ifur's Math বইয়ের 'Percentage' chapter থেকে এ ধরনের অংক Practice করুন |

06. At a club, 70% of the members are women and 60% of the members are married. If $\frac{2}{3}$ of the men is single, what fraction of the women is married?

    (A) $\frac{5}{7}$ (B) $\frac{7}{10}$ (C) $\frac{1}{3}$ (D) $\frac{7}{30}$ (E) None

07. The 356 members of Metro Chamber of Commerce will vote to choose a President. With 5 candidates seeking office, what is the least number of votes a successful candidate could receive and yet have more votes than any other candidate?
(A) 71   (B) 72   (C) 89   (D) 178   (E) 179

08. A garments worker is paid d Takas per hour for the first 8 hours she works in a day. For every hour after the first 8 hours, she is paid c Takas per hour. If she works 12 hours in one day, what is her average hourly wage for that day?
(A) $\dfrac{2d+c}{3}$ (B) $8d+4c$ (C) $\dfrac{8d+12c}{12}$ (D) $\dfrac{4d+8c}{12}$ (E) $d+\left(\dfrac{1}{3}\right)c$

09. Karim received a 10% raise each month for 3 consecutive months. If his salary after the 3 raises is 13310, what his starting salary?
(A) 9000   (B) 10000   (C) 11000   (D) 12000   (E) None

10. By how much is $\dfrac{3}{7}$ larger than 20% of 2?
(A) $\dfrac{1}{35}$ (B) $\dfrac{1}{7}$ (C) $\dfrac{4}{7}$ (D) $\dfrac{3.3}{7}$ (E) $\dfrac{3.4}{7}$

11. Given that x and y are real numbers, let $f(x, y) = x + 2y$ and let $g(x) = x^3 + 3$. Then $f\{5, g(2)\} =$
(A) $3x^3 + 2$ (B) 11   (C) 27   (D) 29   (E) None

12. The greatest common factor of two positive integers is A. The least common multiple of the two integers is B. If one of the integers is C, what is the other number?
(A) $\dfrac{AB}{C}$ (B) $\dfrac{BC}{A}$ (C) $\dfrac{A}{C} + B$ (D) $A + \dfrac{B}{C}$ (E) None

13. Two years ago, the cost of pen A was Tk. 70 more than that of pen B. But due to high demand, the cost of pen A has increased by 100% and that of pen B has increased by Tk. 20. If today you need a total of Tk. 250 to buy one pen of each type, what was the price in Taka of pen B two years ago?
(A) 30   (B) 40   (C) 50   (D) 70   (E) None

14. There are 200 questions in a 3-hour examination. Among these questions are 50 mathematics problems. It is suggested that twice as much time be allowed for each mathematics problem as for the other questions. How many minutes should be spent on the mathematics problems?
(A) 36   (B) 60   (C) 72   (D) 100   (E) 120

15. The size of the smaller angle between the hands of the clock at half past six, expressed in degrees, is
(A) 7.5°   (B) 15°   (C) 22.5°   (D) 30°
(E) more than $22\dfrac{1}{2}^{\circ}$ but less than 30°

16. Referring to the figure below, the area of the shaded portion is

(A) $2r^2(\pi - 2)$ (B) $2r^2(2 - \pi)$ (C) $2r^2(\pi - 4)$ (D) ?   (E) $r^2(2 - \pi)$

17. Referring to the figure below, $\angle BAC = 90°$ and D is the midpoint of BC. If BC = 10 cm, what is the value of AD in cm?

(A) 3   (B) 4   (C) 5   (D) $5\sqrt{2}$ (E) None

18. A boy purchased some chocolates from a shop for Tk. 120. In the next shop he found that the price per piece of chocolate is Tk. 3 less than that charged at the previous shop, and as such he could have purchased 2 more chocolates. How many chocolates did he buy from the first ship?
(A) 7   (B) 8   (C) 9   (D) 10   (E) None

19. In a survey of Chittagong City, it was found that 70% of the people surveyed watched television news, 35% read a newspaper, and 25% read a newspaper and watched television news. What percent of the people surveyed neither watched television news nor read a newspaper?
(A) 30%   (B) 20%   (C) 0%   (D) 15%   (E) 5%

20. A triangular plot with sides 28 meters, 35 meters, & 56 meters is to be surrounded by a fence built on posts set 7 meters apart. After posts are placed at each corner, how many more additional posts will be needed?
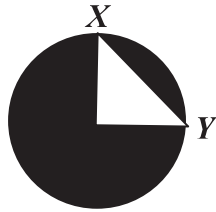(A) 14   (B) 15   (C) 16   (D) 17   (E) 20

Questions 21 - 24 refer to the following chart

Ten largest cities in Bangladesh

District	Rank in	Population (millions)		Rank in	District	Rank in	Population (millions)		Rank in
Year	1960	1960	1950	1950	Year	1960	1960	1950	1950
Dhaka	1	7.71	7.89	1	Bogra	6	0.93	0.60	14
Chittagong	2	3.49	3.62	2	Jamalpur	7	0.92	0.95	6
Rajshahi	3	2.45	1.97	4	Faridpur	8	0.87	0.91	7
Khulna	4	1.96	2.07	3	Feni	9	0.75	0.80	9
Sylhet	5	1.67	1.85	5	Barisal	10	0.75	0.86	8

21. Which of the following cities had the largest percentage change in population between 1950 and 1960?
    (A) Dhaka   (B) Chittagong (C) Rajshahi   (D) Bogra   (E) Feni

22. If the total Bangladesh population was 86 million in 1950, approximately what percent of the population lived in the 5 largest cities in 1950?
    (A) 5%   (B) 10%   (C) 15%   (D) 20%   (E) 35%

23. If Sylhet had a population of 1 million in 1940, what was the percentage increase between 1940 & 1960?
    (A) 40   (B) 50   (C) 60   (D) 67   (E) 167

24. In 1960, how many times was the population of Khulna larger than that of Feni.
    (A) 1.2   (B) 1.5   (C) 2.0   (D) 2.6   (E) 3.2

25. Hasib's weights is 140% of Shawkat's weight. Mowla's weight is 90% of Misha's weight. Misha weights twice as much Shawkat. What percent of Hasib's weight is Mowa's weight?

    (A) $64\dfrac{2}{7}$ (B) 90   (C) $77\dfrac{7}{9}$ (D) $155\dfrac{5}{9}$ (E) $128\dfrac{4}{7}$

26. **O** is the center of the circle at the right. **XO** is perpendicular to **YO** and the area of triangle **XOY** is 32. What is the area of circle **O**?

    (A) 16π (B) 32π (C) 64π (D) 128π (E) 256π

27. A T-shirt marked Tk. 48 is offered at a discount of 25% during Eid sale. At this reduced price the shopkeeper makes a profit of 20% on the cost. The cost to the shopkeeper is
    (A) Tk. 29   (B) Tk. 30   (C) Tk. 32   (D) Tk. 36   (E) Tk. 40

28. Halim, Kalim and Salim invest Tk. 5000, Tk. 7000, and Tk. 12000 respectively in a business. If the profits are distributed proportionately, what share of a Tk. 1111 profit should Salim receive?
    (A) Tk. 231.40   (B) Tk. 264.00   (C) Tk. 333.33
    (D) Tk. 370.33   (E) Tk. 555.50

29. A bus uses one liter of diesel to travel 15 km. After an engine turn-up, the bus travels 15% father on one liter. How many liters of diesel (to the nearest tenth) with it take for the bus to travel 150 km after a tune-up?
    (A) 8.5   (B) 8.7   (C) 8.9   (D) 9.0   (E) 10.0

4

30. If $\frac{1}{x} + \frac{1}{y} = 7$ and $\frac{1}{x^2} - \frac{1}{y^2} = 21$, what is the value of x?

   (A) $\frac{1}{2}$ (B) $\frac{1}{3}$ (C) $\frac{1}{5}$ (D) $\frac{1}{7}$ (E) none

20 questions	**Section II: Analytical Ability**	1×20 marks-

Directions: *Solve each of the following problems and mark the correct answer on your Answer Sheet.*

01. Team plays, like football, display strong socialist tendencies in their requirement of individual subordination to the authority of coaches and managers.
Which of the following may not be inferred from the above information?
(A) All team sports are authoritarian.
(B) All team players are subordinate to their coaches.
(C) All team sports have socialist tendencies.
(D) Individual subordination to authority is an aspect of socialism.
(E) Without employee subordination to managerial authority, production for profit would not be possible

02. Department stores range from two to nine floors in height. If a store has more than three floors, it has a lift. If the statements above are true, which of the following must also be true?
(A) Second floors do not have lifts.   (B) Fourth floors have lifts.
(C) Only floors above third floor have lifts.
(D) All floors may be reached by lifts.
(E) Some two-floor departmental stores do not have lifts.

03. Irin is taller Shahin.
Elias is taller than Haroon.
Haroon is shorter than Gomes.
Shahin and Gomes have the same height.
If the above is true, which of the conditions must also be true?
(A) Elias is taller than Gomes   (B) Elias is taller than Irin
(C) Shahin is shorter than Elias   (D) Irin is shorter than Haroon
(E) Shahin is taller than Haroon

04. At a political rally in Paltan Maidan, cadidate Mr. Rahmat Ali exclaimed, æ.. Nearly everyone at the rally is behind me. It seems I am going to be elected."
(A) Ali was supported by the City Mayor
(B) People always vote according to their emotion.
(C) Ali has never been defeated in an election
(D) Ali's opponent also appeared at the rally.
(E) The rally was attended by nearly all the residents in Ali's constituency.

05. The Greenhouse effect is causing a general warming of the world. Climatologists are predicting that there will be more droughts and more floods. Soil erosion will be an increasing problem in semi-arid lands. However there will be benefits to other areas of the world where agriculture production will increase. An example is Hokkaido, the northern island of Japan, which will experience a temperature rise of 4 degree Celsius within the next 50 years, and it is predicted that this will increase rice production fourfold. In Iceland and Finland, land which is fit for pasture will increase by 50% and yields of hay could increase by 60%.

Based on the above text, which of the following assumption is correct in panning for future food production?

(A) Pastureland will increase in area.

(B) Desert lands may be flooded.

(C) the climate of northern parts of the world will be unaffected

(D) The greenhouse effect will have a positive effect on certain areas of the world only.

(E) Japan will increase its rice production fourfold.

Questions 6 – 9 are based on the following table.

Budget at a Glance

Taka in billion	Budget 2000-01	Revised budget 1999-2000	Budget 1999-2000
Revenues	**241.98**	**213.45**	**241.51**
Expenditure:			
Current Expenditure	196.33	184.40	178.00
ADP	175.00	165.00	155.00
Internal loan & advance	13.11	-2,47	-4.57
Repayment of foreign Loan	24.80	20.75	18.50
Other capital expenditure	19.35	11.81	14.85
Total Expenditure:	428.59	379.49	361.78
Budget deficit/surplus	-186.61	-166.04	-120.27

06. The forecast budget deficit for 2000 – 01 is what percentage of the deficit in the revised budget of 1999 – 2000?

(A) 120.5%   (B) 110.3%   C) 105.6%   (D) 112.4%   (E) None

07. Revenue forecast for $2000 - 01$ exceeds the $1999 - 2000$ original budget by

  (A) 2%   (B) 5%   (C) almost 0%   (D) $- 3\%$ (E) $- 5\%$

08. Current expenditure in the revised budget for $1999 - 2000$ was lower comparative to $2000 - 01$ by

  (A) 6.08%   (B) 8.08%   (C) 9.08%   (D) 5.08%   (E) None

09. The ADP increase in $2000 - 01$ over the $1999 - 2000$ original budget was the following multiple of Taka 5 billion

  (A) 2   (B) 3   (C) 4   (D) 5   (E) None

10. Dolly has just passed her 108th birthday. She thinks she lived long years due to her habit of drinking a double shot of whiskey each night and smoking there cigars each morning. Which of the following statements contradict the thinking of Dolly?

  (A) Smoking has been proved to be a causative factor in several life threatening diseases.
  (B) Other factors besides those mentioned may have caused her to live 108 years.
  (C) Not all centenarians drink alcohol and smoke tobacco.
  (D) Dolly should not be consuming the substances mentioned without medical advice.
  (E) Alcohol has been shown to kill brain cells.

11. Mila and Nila agreed to embroider a shirt. Mila alone completed one-third of the job and then asked Nila to comlete the rest. Nila asked Riva and the two of them equally shared the job. Which of the following statements is true?

  (A) Nila did more than Mila
  (B) Nila did as much as Mila and Riva did individually
  (C) Nila did more than Riva.
  (D) Nila did as much as Mila and Riva did together
  (E) None of the above

12. M, N, P, Q, and R are positioned in clockwise order around a circular table. R makes a clockwise move jumping over three positions and Q makes a counter-clockwise move also jumping over three positions. What would be the new position in clockwise order?

  (A) NPQMR   (B) RQPMN   (C) MNPRQ (D) Same as before (E) None

13. The total population of seven districts of Dhaka Division is greater than he total population of eight districts of Rajshahi Davison. What can we say if one of the districts is dropped from Dhaka Division?

  (A) The total population of the six districts in Dhaka Division will still be greater than that of the eight districts of Rajshahi Division.
  (B) The total population of the eight districts in Rajshahi Division will be greater than of the six districts of Dhaka Divisin.
  (C) The total population of the eight districts in Rajshahi Division will be equal to that of the six districts of Dhaka Division.
  (D) We cannot say anything conclusively.
  (E) None of the above.

Questions 14 -16 are based on the following.

Strict gun control laws cause a decrease in violent crimes; in the six months since the city council passed a gun control law, armed robbers in City X have dropped by 18 percent.

14. Which of the following statements, if true, would weaken the argument above?
    (I) In the six months the law was passed, 40 percent more police have been recruited.
    (II) In the six months since the law was passed, accidental deaths by firearms have increased by 10%
    (III) Only 30% of those indicted under the law have been convicted.
    (A) 1 only   (B) III only   (C) I and II only
    (D) I and III only   (E) II and III only

15. All of the following if true, are valid objections to the arguments above EXCEPT:
    (A) A decease in crime in one city does not mean that such a decrease would occur anywhere a gun control law enacted.
    (B) Other factors may have caused the drop in armed robberies.
    (C) Armed robbery is only one kind of violent crime that might be affected by a gun control law.
    (D) The gun control law has made it more difficult for citizens to purchase guns for legitimate purpose of self-defense.
    (E) Since the law was passed, murders involving guns in City X have increased by 22 percent.

16. Which of the following statements, if true, would strengthen the argument above?
    (I) Before the law was passed, the number of armed robberies had been steadily increasing.
    (II) The more that laws are used to prevent a crime, the less likely that crime is to occur.
    (III) There-fourths of all violent crimes involve the use of a un.
    (A) I only   (B) III only   (C) I and II only   (D) II and III only (E) I, II, & III

Questions 17 - 20 are based on the following passage.

In a certain society, there are two groups, Red and Brown. No marriage is permitted within a group. On marriage, males become part of their wife's group, Children belong to the same group as their parents. Widowers and divorced males revert to the group of their birth. Marriage to more than one person at the same time and marriage to a direct descendant are forbidden.

17. A male born in the Brown group may have
    (A) an uncle in either group   (B) a brown daughter
    (C) a Brown son   (D) a son-in-law born into the Red group
    (E) a daughter-in-law in the Red group

18. A brown female could have had
    (I) a grandfather born Red
    (II) a grand mother born Red
    (III) two grandfathers born Brown
    (A) I only   (B) III only   (C) I and II only
    (D) II and III only   (E) I, II & III

19. Which of the following is not permitted under the rule as stated above?
    (A) A Brown male marrying his father's sister.
    (B) A Red female marrying her mother's brother.
    (C) A widower marrying his wife's sister.
    (D) A widow marrying her divorced daughter's ex-husband.
    (E) A man born Red, who is now a widower marrying his wife's sister.

20. If widowers and divorced males retained the group they had upon marrying, which of the following would be permissible? (Assume that no previous marriage occurred)
    (A) A woman marrying her dead sister's husband
    (B) A widower marrying his brother's daughter
    (C) A woman marrying her divorced daughter's ex-husband.
    (D) A woman marrying her mother's brother, who is widower.
    (E) A divorced male marrying his ex-wife's divorced sister.

Section III: English Language & Communication

This section consists of two parts. Part A contains MCQs that must be answered on the Answer Sheet. Part B must be answered in this test booklet in the spaces provided.

Part A: Multiple Choice Questions   **1 × 30 = 30 marks**

Directions: *The underlined section in each of the following sentences may contain problems in grammar, sentence construction, word choice, and punctuation. Select the lettered answer that provides the best alternative to the underlined section and mark your **Answer Sheet** accordingly. Choice (A) always repeats the underlined section exactly; select it if the sentence is correct as it stands.*

01. The mistakes children make in learning to speak tell linguists more about <u>how they learn language than</u> the correct forms they use.
    (A) how they learn language than   (B) how one learns language than
    (C) how children learn language than do   (D) learning language than
    (E) their language learning than do

    | শব্দের অর্থ | **linguists** (লিঙ্গুইস্ট্স্) - ভাষাবিদগণ;

Table of Contents

DU, IBA Executive MBA Admission Test