Reg. No. ☐☐☐☐☐☐☐☐☐☐

BSCMTEN 202

**II Semester Open Elective (NEP – 2020) Examination, September 2022
(2021 – 22 Batch Onwards)
MATHEMATICS
Business Mathematics – II**

Time : 2 Hours   Max. Marks : 60

Instructions : *1) Answer **any eight** questions from Part – **A**. **Each**
question carries **3** marks.*
*2) Answers to Part **A** should be written in the first few pages
of the answer book before answers to Part – **B**.*
*3) Answer **any six** questions from Part – **B** by choosing **two**
questions from **each** Unit. **Each** question carries **6** marks.*
*4) Scientific calculators are **allowed**.*

PART – A

Answer **any eight** questions.   **(8×3=24)**

1. Find the simple interest on Rs. 2,276 for 2 years 6 months at 12.5%.   **3**

2. What is the principal amount of Rs. 19,830 in 6 years at 8% p.a. compound
   interest ?   **3**

3. At what rate of simple interest will ₹ 800 amount to ₹ 836 in 9 months.   **3**

4. Find the compound interest on Rs. 560 for 3 years at 8% p.a.   **3**

5. Define prime number and give any two examples.   **3**

6. What least number must be added to 1056 to get a number exactly divisible
   by 23 ?   **3**

7. Convert the following into Vulgar fractions :   **3**
   i) $0.29\overline{56}$
   ii) $0.0\overline{01}$

8. Find the average of all the five prime numbers between 30 and 50.　**3**

9. A and B can together complete a piece of work in 15 days and B alone in 20 days. In how many days can A alone complete the work ?　**3**

10. The speed of the boat when travelling downstream is 32 km/hr, where as when travelling upstream it is 28 km/hr, what is the speed of the boat in still water ?　**3**

11. Prove that the number of odd days between 3-12-2002 and 1-1-2014 is zero.　**3**

12. At what time between 2 and 3'o clock will be the hands of a clock be together ?　**3**

PART – B

Answer **any six** questions by choosing **two** questions from **each** Unit.　**(6×6=36)**

Unit – 1

13. Find the simple interest on Rs. 700 at 8% for one year, one month and six days.　**6**

14. Find the compound interest on Rs. 20,000 at 6% p.a. for 4 years. What is the simple interest on same amount ?　**6**

15. A man borrowed ₹ 62,500 from a bank, after 2 years he paid ₹ 67,600 in full settlement of his debt. Find the rate of compound interest.　**6**

16. Calculate the amount of annuity of Rs. 5,000 for 3 years if the rate of interest is 15% p.a.　**6**

Unit – 2

17. A tailor has 37.5 metres of cloth and he has make 8 pieces out of a metre of cloth. How many pieces can be make out of this cloth ?　**6**

18. If $3x - 5y = 5$ and $\dfrac{x}{x+y} = \dfrac{5}{7}$, then calculate the value of 2xy.　**6**

19. The product of two numbers is 192 and the sum of these two numbers is 28. What is the small of these two numbers ? **6**

20. The age of father 10 years ago was thrice the age of his son, 10 years hence father's age will be twice that of his son. Find the ratio of their present ages. **6**

Unit – 3

21. A and B undertake to do a piece of work for ₹ 600. A alone can do it in 6 days while B alone can do it in 8 days. With the help of C, they finish it in 3 days. Find the share of each. **6**

22. A 150 m long train is running with a speed of 68 kmph. In what time will it pass a man who is running at 8 kmph in the same direction in which the train is going ? **6**

23. What was day of the week on 15th August 1947 ? **6**

24. Find at what time between 8 and 9 o'clock will be the hands of a clock be in the same straight line but not together ? **6**

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