| Manmohan Technical University | | Exam Roll: | | | | | |
|--|--|--|--|--|--|--|--|
| Office of the Controller of Examinations Exam Year: 2082, Jestha (Model Question) | | | am Roll in words: | | | | |
| School: S | School: School of Applied Science, Technology and Law Program: BBA.LLB Subject: Business Mathematics (BHMN104) | | Level: Bachelor | Invigilator's Sign: | | | |
| Program: | | | Year/Part: I/I | Superi | intendent's Sign: | | |
| Subject: | | | | Code N | No | | |
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| GROUP A | (Multiple-Choice Questions) | | [10x1=10] | | Time: 20 Minutes | | |
| i. ii | This group contains 10 multiple-choic | e questio | ons (MCQs). Chaot | | Code No.: | | |
| iii. | You may use the main answer sheet for | r rough work. | | | | | |
| iv. | Marks will not be awarded for answer | rs with cu | tting, erasing, overwriting, c | or multi | ple shaded options. | | |
| V. | The MCQ question paper must be retu | rned alor | ng with the MCQ answer shee | et. | | | |
| A) B) C) D) 2. W 2. W A B C D 3. W <i>re</i> A) B) C) D |) Ihering) Holland) Austin) Bentham ?hich statement is true: Ownership rights confer power to exclusively use and enjoy; II. Ownership ensures Title III. Ownership is right in <i>Personam</i> IV. Ownership is right in rem) I,II,III, and IV are right Except III, all are essential feature ownership Except IV, all are essential features ownership Except II, all are essential feature ownership ? Except II, all are essential features ownership ? Except II, all are essential feature ownership ? Where there is right, there is remedy ? Where there is law, there is procedure ? Where there is fundamental right the | s of are s of <i>ibi</i> is re is | A) Folity B) Economy C) Society D) Harmony 6. which of the foil I. Property could II. Criminal laws sidead/decease III. Citizens are native in the construction of the constru | llowing d be giv secures d perso atural p e recog d IV are ly true, correct dverse ational 0 and 30 and 12 novable bikes se y watch got: ossession ossession | statement is true? ren to an unborn child rights of on persons nized under law true possession under Civil Code, 2074 is: years years e property five years ven years n for repair through my | | |
| - | remedial measure | | DJ Constructiv 9 Ownership is 1 | ve poss O noint | ession is in law out of 10 while | | |
| 4. W | hich statement is correct: | | possession is: | o point | s in law out of 10, willie | | |
| A) | Positive duty is obligatory in nature, w | /hile | A) 9 points in | law ou | t of 10 | | |
| נס | negative duty is prohibitory in nature | ure | B) 10 points i | n law o | ut of 10 | | |
| j J | while negative duty is remedial in nati | ure | C) 8 points ou | ut of 10 | 0 | | |
| C) | Positive duty is substantive, w | vhile | D) 9.5 points (| out of 1 | U at a fundamental right in | | |
| , | negative duty is procedural | | ID. RIGHT TO PROPER | i ty IS NC e same i | n a runuamentai right in in Nenal is: | | |
| D) |) Positive duty focuses on doing special | acts, | A) Fundamen | tal righ | t | | |
| | while negative duty focuses on avoid | ding | B) Legal right | | - | | |
| | special acts | | C) Social right | t | | | |
| | | | D) Political rig | ght | | | |
| MCQ Answer Sheet | | | | | | | |
| s Secured: | | | | | | | |
| /ords: | Correct | | | シ | 6. A B C D | | |

| In Words: | | |
|----------------------|-------|--|
| Examiner's Sign: | Date: | |
| Scrutinizer's Marks: | | |
| In Words: | | |
| Scrutinizer's Sign: | Date: | |

| Corrected Fill | | | | | |
|-------------------------------|--|--|--|--|--|
| $(A) \bullet (C) \bullet (A)$ | | | | | |
| Incorrected Fill | | | | | |

| | 6. A B C D |
|--------------------|-------------|
| 2. A B C D | 7. A B C D |
| 3. A B C D | 8. A B C D |
| 4. (A) (B) (C) (D) | 9. A B C D |
| 5. A B C D | 10. A B C D |

Manmohan Technical University Office of the Controller of Examinations **Exam Year: 2082, Jestha (Model Question)**

| | Examini real: 2002, jestila [| Model Question) | |
|--------|--|--|------------------------------|
| Scho | ool: School of Applied Science, Technology and Law | Level: Bachelor | Time: 3 Hours |
| Prog | gram: BBA.LLB | Year/Part: I/I | Full Marks: 60 |
| Sub | ject: Business Mathematics (BHMN104) | | Pass Marks: 30 |
| v v | Candidates are required to give their answers in their of The figures in the margin indicate Full Marks. Assume suitable data if necessary. | own words as far as practio | cable. |
| GRC | DUP A (Multiple-Choice Questions are provided on separate | e sheet) | [10×1=10] |
| GRO | OUP B (Descriptive Answer Questions - Attempt ALL Quest | tions) | [8×4=32] |
| 1. | The demand and supply function for goods are given Demand function: $P_d = 168 - 0.4Q_d$ Supply function: $P_s = 8 + 0.4Q_s$ a) Calculate equilibrium price and quantity. b) Find consumer's surplus, producer's surplus and | n by total surplus. | |
| 2. | Solve the following system of linear equations: 2x - y + 3z = 9 x - y + z = 2 x + y + z = 26 | | |
| 3. | Find $\frac{dy}{dx}$ from the following: (i) $x^2 + y^2 = 25$ (ii) $x = -2t + 1$; $y = t^3 - t^2 + t$ | | |
| 4. | A person wishes to deposit Rs. 5,000 at the end of e p.a. compound interest. If the instalments are allow total accumulation at the end of 10 years? | ach year in a bank whic ved to accumulate, wha | ch pays 10% t will be the |
| 5. | Integrate $\int_0^1 \frac{dx}{\sqrt{x} + x}$ | | |
| 6. | Solve the following linear equations by using Ga equivalent matrix) method. Z - Y = -3 10 - Y = X 3X = 4Z | auss's Jordan eliminati | on (or row |
| 7. | A consumption function is modelled by the equiverpresents income. (i) Find level of consumptions at y = 5, 10, 1 (ii) Plot the consumption values in the graph (iii) Find the saturation level. | ation C = 50(1 – e ^{-0.2} 15, 20, 25 h paper. | y), where Y |

GROUP C (Analytical Answer Questions - **Attempt Any TWO Questions**)

[2×9=18]

8. The following table shows the yearly income of a factory:

| 0 | 2 | 5 | | 5 | | | |
|----------------------|------|------|------|------|------|------|------|
| year | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 |
| Income (Rs millions) | 11 | 13 | 15 | 14 | 17 | 18 | 16 |

Obtain the equation of line by least square method. Also estimate the income of the factory for the years 2022 and 2025.

- 9. The total cost function of XYZ Company is given by the equation (TC) = 300 + 40Q, where P and Q are price and quantity of the items produced by the company. The demand function of that company is specified by the equation P = 120 4Q. Find
 - a. The maximum revenue.
 - b. The maximum profit.
 - c. The breakeven points.
 - d. The price at which the maximum profit. (6+6+6+2)
- 10. The demand and supply functions in a competitive market are $Q_d = 60 5P$ and $Q_s = -15 + 6P$ respectively and price currently is Rs 11. The rate of adjustment of price when the market is out of equilibrium is $\frac{dP}{dt} = 0.3(Q_d Q_s)$. Derive and solve the relevant differential equation to get a function P in terms of t given that price is Rs.21 in time period zero (0). Comment on the stability of this market.

∞∞ *The End* ∞∞