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Daffodil International University

Class Test

Student ID: ..... Program: ..... Semester: Spring-2026

Course Code:.....MAT101..... Course Title:.....Mathematics 1.....Section:.....

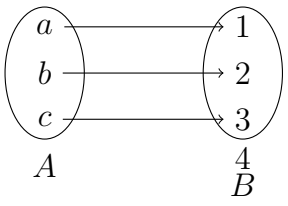
Class Test No: ..... Date: ..... Teacher's Signature: .....

Total Marks: 15 Time: 45 minutes

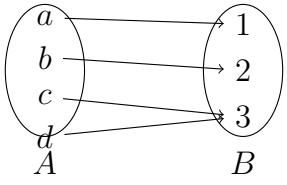
Set–1

Q1. From the following diagrams, determine whether each represents a function from A to B. If it is a function, state whether it is one-one, onto, both, or neither. Justify your answer. (5 marks)

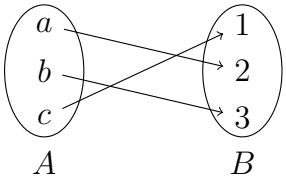
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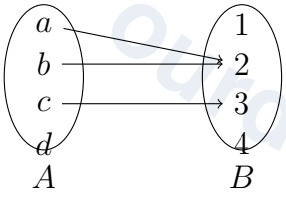
(b)



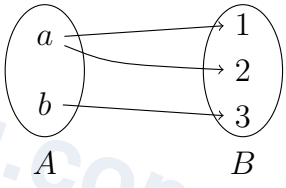
(c)



(d)



(e)



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Q2. Find the domain and range of: (5 marks)

(i) $f(x) = \dfrac{1}{x-3}$ (3 marks)

(ii) $g(x) = \sqrt{4-x}$ (3 marks)

Q3. Sketch the graphs of: (5 marks)

(i) $y = x^2 - 4x + 3$ (2 marks)

(ii) $y = \begin{cases} -1, & x < 0, \\ 0, & x = 0, \\ 1, & x > 0 \end{cases}$ (2 marks)

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Course Code:……MAT101……. Course Title:……Mathematics 1…….Section:…….

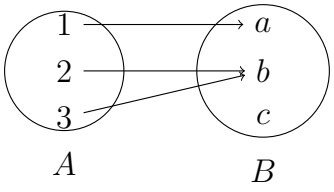
Class Test No: …….. Date: …… Teacher's Signature: …….

Total Marks: 15 Time: 45 minutes

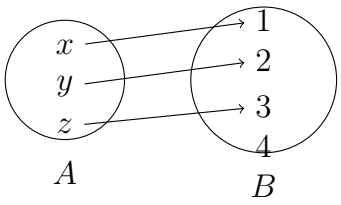
Set–2

Q1. For each mapping from A to B, state whether it is a function. If yes, determine if one-one, onto, both, or neither. (5 marks)

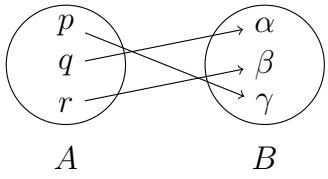
(a)



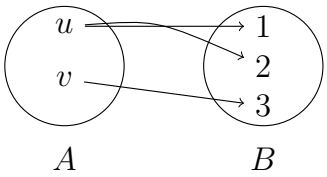
(b)



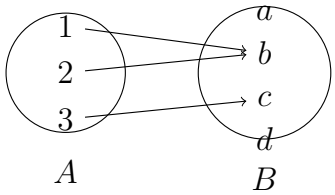
(c)



(d)



(e)



Q2. Find the domain and range of: (5 marks)

(i) $f(x) = \dfrac{1}{x-2}$ (3 marks)

(ii) $g(x) = \sqrt{5-x}$ (3 marks)

Q3. Sketch: (5 marks)

(i) $y = |x-2|$ (2 marks)

(ii) $y = \begin{cases} 0, & x \le 1, \\ x-1, & x > 1 \end{cases}$ (2 marks)

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Course Code:.....MAT101..... Course Title:.....Mathematics 1.....Section:.....

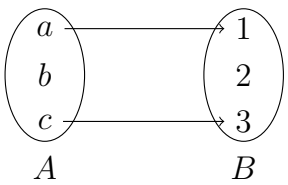
Class Test No: ..... Date: ..... Teacher's Signature: .....

Total Marks: 15 Time: 45 minutes

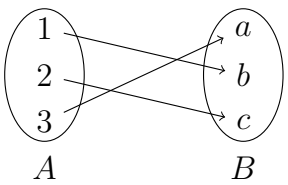
Set–3

Q1. For each arrow diagram, decide if it's a function from A to B. Classify if one-one, onto, etc. (5 marks)

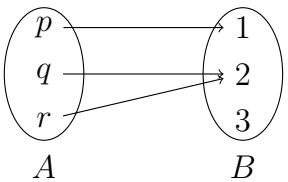
(a)



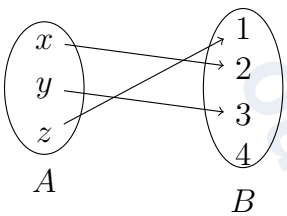
(b)



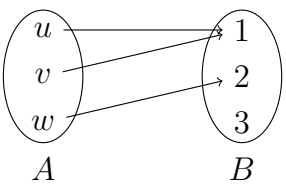
(c)



(d)



(e)



Q2. Domain and range: (5 marks)

(i) $g(x) = \sqrt{x+3}$ (3 marks)

(ii) $h(x) = \dfrac{3x-1}{x+2}$ (3 mark)

Q3. Sketch graphs: (5 marks)

(i) $y = \dfrac{1}{x}$ (2 marks)

(ii) $y = \begin{cases} 1, & x \leq 0, \\ x, & x > 0 \end{cases}$ (2 marks)

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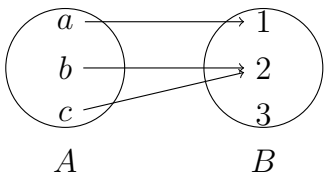
Class Test No: …….. Date: …….. Teacher's Signature: ……..

Total Marks: 15 Time: 45 minutes

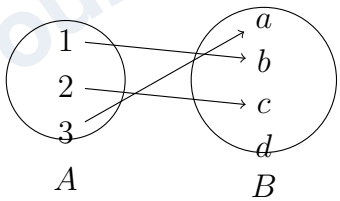
Set–4

Q1. For each arrow diagram, decide if it's a function from A to B. Classify if one-one, onto, etc. (5 marks)

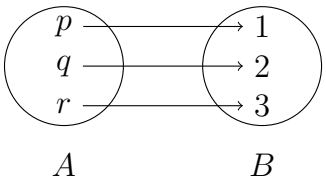
(a)



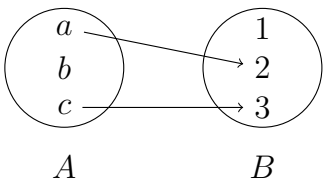
(b)



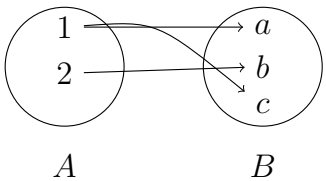
(c)



(d)



(e)



Q2. Domain and range: (5 marks)

(i) $f(x) = \sqrt{2x-3}$ (3 marks)

(ii) $g(x) = \dfrac{x}{x-4}$ (3 marks)

Q3. Sketch graphs: (5 marks)

(i) $y = x^2$ (2 marks)

(ii) $y = \begin{cases} 0, & x \le 0, \\ \sqrt{x}, & x > 0 \end{cases}$ (2 marks)

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