Registration No.: .....

# BHARTIYA SKILL DEVELOPMENT UNIVERSITY

**School of General Education**

**Session: 2021-22 (Summer Semester)**

**B. Voc. Program, I Semester**

**2nd In-Sem. Examination**

**Course Code: GEN1101** **Time: 1 Hour**

**Course Name: English Language & Comprehension** **Max. Marks: 20**

## Section-A (1*5=5)

**Q1.** State the comparative degree of the given word: Nice

**Q2.** State the Superlative degree of the given word: Beautiful

**Q3.** Arrange the jumbled words in a proper sentence:

*the jungle /grew up/ with /the wolf cubs/ in/ Mowgli/*

**Q4.** State whether the statement is true or false:

Rip's only problem was that he was lazy and spent his time shooting, fishing and dreaming.

a) True b) False

**Q5.** Arrange the jumbled words in a proper sentence: *shining/ the moon/ brightly/ in the sky/is.*

## Section B (2*3=6)

**Q6.** What did Mowgli learn from father wolf?

**Q7.** Explain with reference to the context: ***Stop crying Rip. The old man won't hurt you.***

**Q8.** Why did Mowgli not trust men?

## Section C (3*3=9)

**Q9.** Write the summary of the lesson 'Mowgli'.

**Q10.** Why was Rip liked by everyone?

**Q11.** Make sentences using the following words:

a. Forest
b. Help
c. Daughter

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Answer Keys

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**School of General Education**

**Session: 2021-22(Summer Semester)**

**B. Voc. Program, I Semester**

**2nd In-Sem. Examination**

**Answer Key**

**Course Code: GEN1101** **Time: 1 Hour**

**Course Name: English Language & Comprehension**

**Max. Marks: 20**

**Instructions:**

1. All questions are compulsory.
2. The question paper comprises three sections A, B & C. Marks allotted are mentioned against each section.

## Section-A (1*5=5)

**Q1.** State the comparative degree of the given word:

a) Nice-**Nicer**

**Q2.** State the Superlative degree of the given word:

a) Beautiful-**Most Beautiful**

**Q3.** Arrange the jumbled words in a proper sentence:

the jungle /grew up/ with /the wolf cubs/ in/ Mowgli/
**Ans. Mowgli grew up with the wolf cubs in the jungle.**

**Q4.** State whether the statement is true or false:

Rip's only problem was that he was lazy and spent his time shooting, fishing and dreaming.

a) **True**
b) False

**Q5.** Arrange the jumbled words in a proper sentence:

a) shining/ the moon/ brightly/ in the sky/is.

Ans. The moon is shining brightly in the sky.

## Section B (2*3=6)

**Q6.** What did Mowgli learn from father wolf?

Ans. Father Wolf taught him the meanings of the different things till he slowly learnt about life in the jungle.

**Q7.** Explain with reference to the context: ***Stop crying Rip. The old man won't hurt you.***

***Ans.*** The statement has been taken from the story, Rip Van Winkle. The young woman said this to her child because he started crying looking at the old man.

**Q8.** Why did Mowgli not trust men?

Ans. Mowgli did not trust men because Bagheera had shown him a square box with a drop-gate so cleverly hidden in the jungle that he nearly walked into it once. Bagheera told him that it was a trap

## Section C (3*3=9)

**Q9.** Write the summary of the lesson 'Mowgli'.

Ans. The story is about a young boy named Mowgli who grew up with animals. Father Wolf taught him about the ways of living in Jungle. As he grew up in the jungle he understood all the happenings of the jungle including every rustle of grass, the hooting of owls, roosting of the bats and the splash of fish in the water. He would bathe in the rivers and eat honey and raw meat when he felt hungry as taught by Baloo, the shaggy bear. Bagheera, the black panther taught him how to jump from one branch to another. Mowgli sat on the Council Rock and stared into the eyes of wolves for fun as he understood that if he stared hard at any wolf it would drop its eyes. He would help the animals by removing the long thorns and burrs from their fur. He would look curiously at the cultivated lands and the huts of the villagers. Mowgli did not have faith on men because Bagheera had informed him about the traps set by men to catch animals.

**Q10.** Was Rip liked by everyone?

Ans. Rip was liked by everyone because he was a simple, kind-hearted man. The children loved him for the stories he used to tell.

**Q11.** Make sentences using the following words:

a. Forest- They ran through the <u>forest</u> toward the cliff
b. Help- We should <u>help</u> the poor.
c. Daughter- <u>Daughter</u> is a blessing.

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# BHARTIYA SKILL DEVELOPMENT UNIVERSITY

**School of General Education**

**Session: 2021-22 (Summer Semester)**

**B. Voc. Program, 1st Semester**

**2nd In-Sem. Examination**

**Course Code: GEN 1103** **Time: 1 Hour**

**Course Name: Applied Mathematics** **Max. Marks: 20**

**Instruction:**

1. All questions are compulsory.
2. Missing data if any can be suitably assumed.
3. Calculator is not permitted.

## Section – A

$05 \times 01 = 05$ Marks

Q1. Which of the following is the derivate of $y = abx^4 + 7x$:

(a) $\frac{dy}{dx} = ab + 7$

(b) $\frac{dy}{dx} = abx + 7x$

(c) $\frac{dy}{dx} = 4abx^3 + 7$

(d) $\frac{dy}{dx} = 4x^3 + 7$

Q2. Given $y = 3e^x$, then $\frac{dy}{dx}$ is

(a) 3

(b) $3e^x$

(c) $e^x$

(d) $3e^{x+1}$

Q3. If we differentiate $y = 2x^4 - e^x$ with respect to $x$, then

(a) $\frac{dy}{dx} = 8x - e$

(b) $\frac{dy}{dx} = 8x + ex$

(c) $\frac{dy}{dx} = 8x^3 - e^x$

(d) $\frac{dy}{dx} = 8x$

Q4. $\lim_{x \to 1} 12x^2 (x + 2) =$

(a) 4

(b) 36

(c) 46

(d) 50

Q5. $\lim_{x \to 0} 5x^4 + 2x + 14 =$

(a) 21

(b) 0

(c) 14

(d) 7

## Section – B

$03 \times 02 = 06$ Marks

Q6. If $y = \dfrac{a^2bx - 2x^4}{a^2x + b^2}$, then find $\dfrac{dy}{dx}$.

Q7. Evaluate $\lim\limits_{x \to 2} \dfrac{x^2 - 3x + 2}{x^2 - 6x + 8}$

Q8. If $y = \dfrac{1 + x^2 + x^3}{x}$, then find $\dfrac{dy}{dx}$.

## Section – C

$03 \times 03 = 09$ Marks

Q9. (a) If $y = (x^2 + x^3 + 4x)(24 - 10x^3)$ then find $\dfrac{dy}{dx}$.

(b) $\lim\limits_{x \to 4} \dfrac{x^2 - 16}{x - 4}$

Q10. Evaluate $\lim\limits_{x \to 0} \dfrac{\sqrt{a^2 + x^2} - \sqrt{a^2 - x^2}}{x^2}$.

Q11. If $y = \dfrac{ax - bx^2}{(cx + d)^2}$ then find $\dfrac{dy}{dx}$.

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# BHARTIYA SKILL DEVELOPMENT UNIVERSITY

**School of General Education**

**Session: 2021-22 (Summer Semester)**

**B. Voc. Program, 1st Semester**

**2nd In-Sem. Examination**

**Course Code: GEN 1103** **Time: 1 Hour**

**Course Name: Applied Mathematics** **Max. Marks: 20**

## ANSWER KEY

### Section – A

$05 \times 01 = 05$ Marks

Q1. Which of the following is the derivate of $y = abx^4 + 7x$:

(a) $\frac{dy}{dx} = ab + 7$

(b) $\frac{dy}{dx} = abx + 7x$

(c) $\frac{dy}{dx} = 4abx^3 + 7$

(d) $\frac{dy}{dx} = 4x^3 + 7$

Q2. Given $y = 3e^x$, then $\frac{dy}{dx}$ is

(a) 3

(b) $3e^x$

(c) $e^x$

(d) $3e^{x+1}$

Q3. If we differentiate $y = 2x^4 - e^x$ with respect to $x$, then

(a) $\frac{dy}{dx} = 8x - e$

**(c)** $\frac{dy}{dx} = 8x^3 - e^x$

(b) $\frac{dy}{dx} = 8x + ex$

(d) $\frac{dy}{dx} = 8x$

Q4. $\lim_{x \to 1} 12x^2 (x + 2) =$

(a) 4

(b) 36

(c) 46

(d) 50

Q5. $\lim_{x \to 0} 5x^4 + 2x + 14 =$

(a) 21

(b) 0

(c) 14

(d) 7

### Section – B

$03 \times 02 = 06$ Marks

Q6. If $y=\frac{a^2bx-2x^4}{a^2x+b^2}$, then find $\frac{dy}{dx}$.

Q7. Evaluate $\lim_{x\to 2}\frac{x^2-3x+2}{x^2-6x+8}$

Q8. If $y=\frac{1+x^2+x^3}{x}$, then find $\frac{dy}{dx}$.

**Section – C**

$03\times 03 = 09$ Marks

Q9. (a) If $y=(x^2+x^3+4x)(24-10x^3)$ then find $\frac{dy}{dx}$.

(b) $\lim_{x\to 4}\frac{x^2-16}{x-4}$

Q10. Evaluate $\lim_{x\to 0}\frac{\sqrt{a^2+x^2}-\sqrt{a^2-x^2}}{x^2}$.

Q11. If $y=\frac{ax-bx^2}{(cx+d)^2}$ then find $\frac{dy}{dx}$.

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# BHARTIYA SKILL DEVELOPMENT UNIVERSITY

**School of General Education**

**1st Semester,2nd In-Sem. Examination**

**B. Voc. Program, Summer Semester (2021-22)**

**Course Code: GEN1104** **Time: 1 Hour**

**Course Name: Elementary Mathematics** **Max. Marks: 20**

**Instructions:**

1. Answer all questions form section A, each question carries one mark.
2. Answer all questions form section B, each question carries two marks.
3. Answer all questions form section C, each question carries three marks.

**Section – A**

05X01 = 05 Marks

Q1 Mode is the
(A) middle most frequent value
(B) least frequent value
(C) maximum frequent value
(D) none of these

Q2 What is the minimum value of cos θ, $0 \leq \theta \leq 90°$
(A) -1
(B) 0
(C) 1
(D) ½

Q3 $(\sin 30° + \cos 30°) - (\sin 60° + \cos 60°)$

(A) – 1

(B) 0

(C) 1

(D) 2

Q4: Suppose a shopkeeper has bought 1 kg of apples for 100 rs. And sold it for Rs. 120 per kg. How much is the profit gained by him?

(A) 20

(B) 30

(C) 15

(D) 35

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Q5 for the above example calculate the percentage of the profit gained by the shopkeeper.

A. 10%
B. 20%
C. 15%
D. 5%

## Section – B

03X02 = 06 Marks

Q6. A man buys an article for Rs. 27.50 and sells it for Rs 28.60. Find his gain percent

Q7 Find the Median, Mode and Mean of 9,5,8,9,9,7,8,9,8?

Q8 Define Following

(i) Lcm
(ii) Hcf

## Section – C

03X03 = 09 Marks

Q9: A man buys a fan for Rs. 1000 and sells it at a loss of 15%. What is the selling price of the fan?

Q10.

| Classes | 0-10 | 10-20 | 20-30 | 30-40 | 40-50 |
|---|---|---|---|---|---|
| Frequency | 2 | 12 | 22 | 8 | 6 |

Q11 Calculate the value of Mean(M) for the following data.

| CLASS INTERVAL | FREQUANCY(f) |
|---|---|
| 0-10 | 2 |
| 10-20 | 18 |
| 20-30 | 30 |
| 30-40 | 40 |
| 40-50 | 35 |
| 50-60 | 20 |
| 60-70 | 6 |
| 70-80 | 3 |

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**School of General education**

**1st Semester,2nd In-Sem. Examination**

**B. Voc. Program, Summer Semester (2021-22)**

**Course Code: GEN1104**

**Course Name: Elementary Mathematics**

**Time: 1 Hour**

**Max. Marks: 20**

## Section – A

05X01 = 05 Marks

Q1 Mode is the
(A) middle most frequent value
(B) least frequent value
**(C) maximum frequent value**
(D) none of these

Q2 What is the minimum value of $\cos\theta$, $0 \leq \theta \leq 90°$
(A) -1
**(B) 0**
(C) 1
(D) ½

Q3 $(\sin 30° + \cos 30°) - (\sin 60° + \cos 60°)$

(A) – 1

**(B) 0**

(C) 1

(D) 2

Q4: Suppose a shopkeeper has bought 1 kg of apples for 100 rs. And sold it for Rs. 120 per kg. How much is the profit gained by him?

**(A) 20**

(B) 30

(C) 15

(D) 35

# BHARTIYA SKILL DEVELOPMENT UNIVERSITY

Q5 for the above example calculate the percentage of the profit gained by the shopkeeper.

A. 10%

**B. 20%**

C. 15%

D. 5%

**Section – B**

03X02 = 06 Marks

Q6. A man buys an article for Rs. 27.50 and sells it for Rs 28.60. Find his gain percent

Explanation:

So we have C.P. = 27.50
S.P. = 28.60

Gain = 28.60 - 27.50

= Rs. 1.10

*Gain* %=(*Gain/Cost*∗100) %
(1.10/27.50∗100) %

4%

Q7 Find the Median, Mode and Mean of 9,5,8,9,9,7,8,9,8?

As per the given data,

9, 5, 8, 9, 9, 7, 8, 9, 8

Arranging the numbers in numerical order

5, 7, 8, 8, 8, 9, 9, 9, 9

Since there is an odd number of numbers, the middle number is the median of the given data

⇒ Median = 8

The value which appears mostly is considered as mode, as 9 is repeated 4 times.

⇒ Mode = 9

Mean = (9 + 5 + 8 + 9 + 9 + 7 + 8 + 9 + 8)/9 = 8

∴ Median, mode and mean = (8, 9, 8)

Q8 Define Following

(i) Lcm - **LCM in Math's is Least Common Multiple.**
(ii) Hcf - **HCF in Math's is Highest Common Factor**

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## Section – C

03X03 = 09 Marks

Q9: A man buys a fan for Rs. 1000 and sells it at a loss of 15%. What is the selling price of the fan?

Solution: Cost Price of the fan is Rs.1000

Loss percentage is 15%

As we know, Loss percentage = (Loss/Cost Price) x 100

15 = (Loss/1000) x 100

Therefore, Loss = 150 rs.

As we know,

Loss = Cost Price – Selling Price

So, Selling Price = Cost Price – Loss

= 1000 – 150

Selling Price = R.850/-

10 Find the median marks for the following distribution:

| Classes | 0-10 | 10-20 | 20-30 | 30-40 | 40-50 |
|---|---|---|---|---|---|
| Frequency | 2 | 12 | 22 | 8 | 6 |

Solution:

We need to calculate the cumulative frequencies to find the median.

Calculation table:

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| Classes | Number of students | Cumulative frequency |
|---|---|---|
| 0-10 | 2 | 2 |
| 10-20 | 12 | 2 + 12 = 14 |
| 20-30 | 22 | 14 + 22 = 36 |
| 30-40 | 8 | 36 + 8 = 44 |
| 40-50 | 6 | 44 + 6 = 50 |

N = 50

N/2 = 50/2 = 25

Median Class = (20 - 30)

l = 20, f = 22, c = 14, h = 10

Using Median formula:

Median =

= 20 + (25 - 14)/22 × 10

= 20 + (11/22) × 10

= 20 + 5 = 25

Q11 Calculate the value of Mean(M) for the following data.

| CLASS INTERVAL | FREQUANCY(f) |
|---|---|
| 0-10 | 2 |
| 10-20 | 18 |
| 20-30 | 30 |
| 30-40 | 40 |
| 40-50 | 35 |
| 50-60 | 20 |
| 60-70 | 6 |
| 70-80 | 3 |

# BHARTIYA SKILL DEVELOPMENT UNIVERSITY

Ans:-

| CLASS INTERVAL | Mid-point (x) | FREQUANCY(f) | fx |
|---|---|---|---|
| 0-10 | 5 | 2 | 10 |
| 10-20 | 15 | 18 | 270 |
| 20-30 | 25 | 30 | 750 |
| 30-40 | 35 | 40 | 1400 |
| 40-50 | 45 | 35 | 1575 |
| 50-60 | 55 | 20 | 1100 |
| 60-70 | 65 | 6 | 390 |
| 70-80 | 75 | 3 | 225 |
| | | N = 154 | ∑fx= 5720 |

Mean (M) = $\sum fx/ N$

= $5720/ 154$

= 37.15 An