Registration No.: .....

BHARTIYA SKILL DEVELOPMENT UNIVERSITY

School of General Education

Session: 2019-20 (Summer Semester)

B. Voc. Program, 1st Semester,

1st In-Sem. Examination

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

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

Instruction: The question paper comprises three sections A, B & C. Marks allotted are mentioned against each section.

Section-A (1*5=5)

Q1. Copy the following sentences and underline the pronoun in each sentence:

(a) Suresh is a teacher and he lives in Ajmer.
(b) The baby is smiling because it is happy.

Q 2. State whether the following sentences are True or False:

(a) Helen liked Miss Sullivan.
(b) Velu lived in a big house near the forest.

Q3. Identify the countable and uncountable nouns in the following words:

(a) Sugar
(b) Cow

Q 4. Fill in the blanks with the correct options:

(a) Velu was a _____. (fisherman/student)
(b) Though Helen could not hear or see, she was a _____ girl. (dull/bright)

Q 5. Match the following:

(a) Proper Noun	(i) Helen Kellar
(b) Pronoun	(ii) She

Section- B (2*3=6)

Q 6. Explain the following lines with reference to the context:

Velu, I've not caught any fish today. We are very hungry. Will you give me two small fish?

Q 7. What happened to Helen after her illness?

Q 8. Describe the nature of Velu.

Section- C

(3*3=9)

Q 9. Write a summary of the lesson 'Velu- A Fisherman'.

Q 10. Write a short introduction of yourself in about 10 sentences.

Q 11. Make sentences of your own using the words given below: (total six sentences)

(a) small

(b) parents

(c) strong

(d) kind

(e) teacher

(f) day

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Registration No.....

Bhartiya Skill Development University

School of General Education

I In-Semester Examination- Sep, 2019

Summer Semester, Sem-I (2019-20), B.Voc. Program

English Language & Comprehension
Course Code: GEN-1101

Answer Key

Time: 1 Hour
Max. Marks: 20

Instructions: The question paper comprises three sections A, B & C. Marks allotted are mentioned against each section.

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

Ans1. (a) he

(b) it

Ans2. (a) True

(b) False

Ans3. (a) Uncountable

(b) Countable

An 4. (a) (i)

(b) (ii)

Ans5. (a) Fisherman

(b) bright

Section- B **(2*3=6)**

Ans 6. These lines have been taken from the story, 'Velu-A Fisherman'. These lines were said by a fisherman to Velu. This fisherman had been unable to catch any fish that day and had nothing to eat that night. Therefore, he came to Velu asking him to share two small fish with him.

Ans 7. After illness, Helen could not see or hear anything.

Ans 8. Velu was a greedy and selfish fisherman. He was unkind and unpleasant too as he never liked to share his fish with other fishermen. Later, he became kind and generous and started helping other fishermen.

Section- C **(3*3=9)**

Ans 9. Velu was a fisherman who lived in a small house near the sea. He had good nets and a strong boat for fishing. Velu was greedy and selfish by nature. He was unkind too as he never liked to share his fish with other fishermen.

One day, Velu went fishing to the sea with his fellow fishermen. Velu, being greedy, went a long way into the sea and caught plenty of fish. The fish he caught were small in size. Suddenly, Velu saw many big fish and wanted to catch them. So, he threw away all his small fish and cast the net again to catch the bigger fish. The other fishermen offered to help him, but Velu refused to take their help. Hence, they all went away.

Velu caught a lot of big fish this time in his net. The net became so heavy that Velu could not pull it into his boat alone. The fish broke the net and escaped into the sea, damaging the fishing net. Velu realized his mistake and decided not to be greedy again. At night, Velu and his wife had nothing to eat. His friend fisherman offered them fish for dinner and also promised to help Velu mend his net.

Ans 10. Students will write their individual answers including their name, qualifications, hobbies, family, goals, strengths and weaknesses etc.

Ans 11. Students will write their individual answers.

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School of General Education

Session: 2019-20 (Summer Semester)

B. Voc. Program, 1st Semester

1st 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 one of the following collections is not a set?

(a) The collection of all the days of a month.

(b) The collection of all best movies.

(c) The collection of all the months of a year beginning with the letter 'M'.

(d) The collection of all players in a team.

Q2. If A = {1, 2, 3, 4, 5, 6, 7, 8, 9}, then which one is true?

(a) $A = \{x : x \in R \text{ and } x < 10\}$

(b) $A = \{x : x \in N \text{ and } x < 10\}$

(c) $A = \{x : x \in N \text{ and } x \leq 10\}$

(d) $A = \{x : x \in C \text{ and } x < 10\}$

Q3. $\lim_{x \to 3} 3x(x+1) =$

(a) 4

(b) 36

(c) 46

(d) 50

Q4. $\lim_{x \to 1} 2x^3 + 3x + 10 =$

(a) 12

(b) 64

(c) 15

(d) -16

Q5. If A = {1, 3, 5, 7} and B = {2, 3, 6, 8}, then A-B is

(a) A-B = {1, 3, 5, 7}

(b) A-B = ϕ

(c) A-B = {2, 3, 6, 8}

(d) A-B = {1, 5, 7}

Section – B

$03 \times 02 = 06$ Marks

Q6. Write the following sets into set-builder form:

(i) A = {3, 9, 27,.....}

(ii) A = {2, 4, 6, 8, 10}

Q7. If U = {a, b, c, d, e, f, g, h}, A = {a, b, c} and B = {d, e, f, g}, then find

(i) $(A \cup B)'$ (ii) $A' \cap B'$

Q8. Evaluate $\lim_{x \to 1} \frac{x^2 + 2 + 5ax^3}{x^4}$.

Section – C

$03 \times 03 = 09$ Marks

Q9. Write the power set for the following sets:

(i) A = {a, b, c}

(ii) B = {1, {2, 3}, 4}

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

Q11. Define:

(i) Subset

(ii) Limit

****

Answer keys

UEN 1103

Sec A

Q.1 (b)

Q.2 (b)

Q.3 (b)

Q.4 (c)

Q.5 (d)

Sec. B

Q.6 (i) given

$$A = \{3, 9, 27 \ldots\}$$

$$A = \{3^n, n \in N\}$$

(ii) given

$$A = \{2, 4, 6, 8, 10\}$$

$$A = \{2n : n \in N, 1 \le n \le 5\}$$

Q.7 given $U = \{a, b, c, d, e, f, g, h\}$

$$A = \{a, b, c\}$$

$$B = \{d, e, f, g\}$$

(i) $(A \cup B)' = U - (A \cup B)$

$= \{a, b, c, d, e, f, g, h\} - \{a, b, c, d, e, f, g\}$

$= \{h\}$

(ii) $A' = U - A = \{d, e, f, g, h\}$

$B' = U - B = \{a, b, c, h\}$

$A' \cap B' = \{h\}$

Q.8 $\lim_{x \to 1} \frac{x^2+2+5ax^3}{x^4} = 1+2+5a = 3+5a$

Sec C

Q.9 (i) given $A = \{a, b, c\}$

$P(A) = \{\phi, \{a\}, \{b\}, \{c\}, \{a,b\}, \{b,c\}, \{c,a\}, \{a,b,c\}\}$

(ii) given $B = \{1, \{2,3\}, 4\}$

$P(B) = \{\phi, \{1\}, \{\{2,3\}\}, \{4\}, \{1, \{2,3\}\}, \{1,4\}, \{\{2,3\}, 4\}, \{1, \{2,3\}, 4\}\}$

Q.10 $\lim_{x \to 0} \frac{\sqrt{a^2+x^2}-\sqrt{a^2-x^2}}{x^2}$ $\frac{0}{0}$ form

$\Rightarrow \lim_{x \to 0} \frac{\sqrt{a^2+x^2}-\sqrt{a^2-x^2}}{x^2} \times \frac{\sqrt{a^2+x^2}+\sqrt{a^2-x^2}}{\sqrt{a^2+x^2}+\sqrt{a^2-x^2}}$

$\Rightarrow \lim_{x \to 0} \frac{(a^2+x^2)-(a^2-x^2)}{x^2\left[\sqrt{a^2+x^2}+\sqrt{a^2-x^2}\right]}$

$= \lim_{x \to 0} \frac{2x^2}{x^2\left[\sqrt{a^2+x^2}+\sqrt{a^2-x^2}\right]} = \frac{2}{\sqrt{a^2}+\sqrt{a^2}} = \frac{1}{a}.$

Q.11 Subset : A set "A" is called the subset of set B, if every element of set A belongs to set B.

Limit :- If $x \to a$ and $f(x) \to l$, then l is called the limit of the f^n $f(x)$. $\left[\lim_{x \to a} f(x) = l\right]$

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School of General Education

Session: 2019-20 (Summer Semester)

B. Voc. Program, 1st Semester,

1st In-Sem. Examination

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

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

Instructions:
1. All questions are compulsory.
2. Missing data if any can be suitably assumed

Section – A

05X01 = 05 Marks

Q 1. Which of the following is not a prime number?

(a) 13 **(c)** 19

(b) 17 **(d)** 1

Q 2. How many millimeters is there in 1 m?

(a) 10 **(c)** 0.001

(b) 1000 **(d)** 100

Q 3. 60m 25 cm in cm is:

(a) 60025 cm **(c)** 6025 cm

(b) 625 cm **(d)** 60.25 cm

Q 4. Binary numbers are represented as:

(a) $(10)_2$ **(c)** $(25)_{16}$

(b) $(13)_{10}$ **(d)** none of the above

Q 5. How many kilometers are there in 3 meters?

(a) 3000 km **(c)** 0.003 km

(b) 0.03 km **(d)** 300 km

Section – B

03X02 = 06 Marks

Q 6. Convert the following decimals to binary numbers:

(a) $(156)_{10}$

(b) $(64)_{10}$

Q 7. Shelly purchased 40 m 200 cm long rope and Jenny purchased 16 m 370 cm long rope. What is the total length of the ropes which both of them purchased?

Q 8. Convert the following binary numbers to decimals:

(a) $(1111)_2$

(b) $(10000)_2$

Section – C

03X03 = 09 Marks

Q 9. Jessica's shoebox is 20cm long and 30 cm wide. How many more millimeter is the length of shoebox then width?

Q 10. Convert the following Decimals to hexadecimals:

(a) $(921)_{10}$

(b) $(188)_{10}$

(c) $(100)_{10}$

Q 11. Peter wants to fence the park in front of his house on three sides, which measure 152 m 40 cm, 205 m 10 cm and 310 m 39 cms. Find the total length that is to be fenced.

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ANSWER KEY

ELEMENTARY MATHEMATICS

Course Code:- GEN1104

Section - A

1.) d. [1]

2.) b. [1000]

3.) c. [6025 cm]

4.) a. $[(10)_2]$

5.) c. [0.003 km]

Section-B

6.) a) $(156)_{10}$

	Q	R
156/2	78	0
78/2	39	0
39/2	19	1
19/2	9	1
9/2	4	1
4/2	2	0
2/2	1	0
1/2	0	1

$= (10011100)_2$

b) $(64)_{10}$

	Q	R
64/2	32	0
32/2	16	0
16/2	8	0
8/2	4	0
4/2	2	0
2/2	1	0
1/2	0	1

$= (1000000)_2$

7.) Length of rope purchased by Shelly = 40m 200cm
Length of rope purchased by Jenny = 16m 370cm

Total length of rope purchased = 56m 570cm.

8.) a) $(1111)_2 = 1\times2^3 + 1\times2^2 + 1\times2^1 + 1\times2^0$
$= 8+4+2+1 = 15$
$= (15)_{10}$

b) $(10000)_2 = 1\times2^4 + 0\times2^3 + 0\times2^2 + 0\times2^1 + 0\times2^0$
$= 2^4 = 16$
$= (16)_{10}$

section-C

9.) Length of shoe box in mm = 200 mm
Breadth of shoe box in mm = 300 mm
Breadth of shoe box is 100 mm more than its length.

10.) a) $(921)_{10}$

	Q	R
921/16	57	9
57/16	3	9
3/16	0	3

$= (399)_{16}$

b) $(188)_{10}$

	Q	R
188/16	11	12 [C]
11/16	0	11 [B]

$= (BC)_{16}$

c) $(100)_{10}$

	Q	R
100/16	36	14 [E]
36/16	2	4
2/16	0	2

$= (24E)_{16}$

11.) Total length that he fenced =

	m	cm
	152	40
	205	10
+	310	39
	667	89

= 667m 89cm