



School of General Education
Session: 2019-20 (Summer Semester)
B. Voc. Program, 1st Semester,
End-Sem. Examination

Course Code: GEN1101

Time: 2 Hours

Course Name: English Language and Comprehension

Max. Marks: 50

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

Section-A

10X01 = 10 Marks

- Q1. Write the homophone of the following word: -
sun
- Q2. Put the jumbled words in a correct sentence: -
Seven old men/Rip saw/the first old man/dressed just like
- Q3. Choose the right option: -
This is _____ best school in Jaipur. (a/the)
- Q4. Velu was greedy and _____.
(a) nice (c) selfish
(b) good (d) happy
- Q5. Write the comparative degree of the following word: -
Big
- Q6. Write the superlative degree of the following word: -
good
- Q7. Complete the following sentence with the correct option.
"Whose _____ are these I think I know."
(a) goods (c) foods
(b) woods (d) moods
- Q8. Choose the correct option of the verb given.
Rohan _____ in Bagru. (has lived/has live)
- Q9. Stopping by Woods on a Snowy Evening is written by: -
(a) Robert Summer (c) Robert Frost
(b) Robert Winter (d) Robert Snow
- Q10. Choose the correct pronoun and fill in the blank: -
Shyam is a student and _____ lives in Jaipur. (he/they)

Section B

04X04 = 16 Marks

- Q11. Write the summary of 'Rip Van Winkle'.
- Q12. Explain with reference to the context:
"The woods are lovely, dark and deep,
But I have promises to keep,
And miles to go before I sleep
And miles to go before I sleep".
- Q13. Write the summary of "Mowgli".
- Q14. Explain with reference to the context: 'No, I will not give you any fish'.



Section C

04X06 = 24 Marks

Q15. Write 10-12 sentences on your college life.

Q 16. Make sentences using the following words: -

- | | | |
|-------------|---------------|-------------|
| (a) selfish | (c) shake | (e) evening |
| (b) stop | (d) wonderful | (f) teacher |

Q17. Write the summary of 'Stopping by Woods on a Snowy Evening'.

Q18. Read the passage carefully and answer the questions given below:

Once in a jungle there lived a dog and a jackal. One day they saw a rabbit sitting in the bushes near a pond. The jackal wanted to eat the rabbit. He told the dog that they would chase and kill the rabbit.

The jackal wanted to make fun of the dog. He asked, 'Friend, can you catch the rabbit?' The dog was not very interested. The jackal said, 'It is a big rabbit. I am sure its meat will be very tasty. I wish we both could share this rabbit.'

So the dog ran after the rabbit. But the rabbit was too fast for the dog. The jackal made fun of his friend. He said, 'You are not a good hunter!' To this the dog replied, 'I ran after the rabbit to kill it. The rabbit ran for its life. One who runs for one's life can run really fast. So you please understand this fact before making fun of me.'

The jackal realized his mistake. He felt ashamed. He said, 'I am sorry, my friend.' The dog said, 'You have realized your mistake.

Let's be friends forever.'

The jackal and the dog became good friends and the jackal never tried to make fun of anyone.

- (i) A dog and jackal lived in a _____.
- | | |
|------------|-------------|
| (a) city | (c) town |
| (b) jungle | (d) village |
- (ii) The jackal wanted to make fun of the _____.
- | | |
|---------|-----------|
| (a) rat | (c) dog |
| (b) cat | (d) camel |
- (iii) One day the dog and jackal saw a _____.
- | | |
|------------|------------|
| (a) cat | (c) dog |
| (b) jackal | (d) rabbit |
- (iv) The _____ ran after the rabbit.
- | | |
|------------|---------|
| (a) camel | (c) cat |
| (b) jackal | (d) dog |
- (v) The rabbit was too _____ for the dog.
- | | |
|----------|----------|
| (a) fast | (c) good |
| (b) slow | (d) bad |
- (vi) The _____ and the dog became good friends.
- | | |
|------------|---------|
| (a) Camel | (c) Cat |
| (b) Jackal | (d) dog |



Set B

School of General Education
Session: 2019-20 (Summer Semester)
B. Voc. Program, Ist Semester,
End-Sem. Examination

Answer Key

Course Code: GEN1101

Time: 2 Hours

Course Name: English Language and Comprehension

Max. Marks: 50

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

Section-A

10X01 = 10 Marks

- Q1. Write the homophone of the following word: -
sun - **son**
- Q2. Put the jumbled words in a correct sentence: -
Seven old men/Rip saw/the first old man/dressed just like
Rip saw seven old men dressed just like the first old man.
- Q3. Choose the right option: -
This is _____ best school in Jaipur. a/the
- Q4. Velu was greedy and _____.
- (i) nice
 - (ii) good
 - (iii) selfish**
 - (iv) happy
- Q5. Write the comparative degree of the following word: -
Big - **Bigger**
- Q6. Write the superlative degree of the following word: -
good --**best**
- Q7. Complete the following sentence with the correct option.
“Whose _____ are these I think I know.”
- (i) goods
 - (ii) woods**
 - (iii) foods
 - (iv) moods
- Q8. Choose the correct option of the verb given.
Rohan _____ in Bagru. (**has lived**/has live)
- Q9. Stopping by Woods on a Snow Evening is written by: -
- (i) Robert Summer
 - (ii) Robert Winter
 - (iii) Robert Frost**
 - (iv) Robert Snow



Q10. Choose the correct pronoun and fill in the blank: -

Shyam is a student and _____ lives in Jaipur. (**he/they**)

Section B

04X04 = 16 Marks

Q11. Write the summary of 'Rip Van Winkle'.

Ans. Rip Van Winkle was a simple, kind hearted man who lived in a small village in North America. He told good stories and so the children loved him. Rip's only problem was that he was lazy and spent his time shooting, fishing and dreaming.

One day, Rip went to the Catskill Mountains. He saw a strangely (oddly) dressed man who was trying to lift a big barrel. Rip kindly lifted the barrel and went up the mountain. When they came to a level field, Rip saw seven men playing a game. They gave him something to drink. After drinking, Rip fell asleep.

When Rip woke up everything had changed. He went to his village and could not recognize anything. He also had become an old man. He saw a young woman with a baby. She told him that her father's name was Rip. Rip was very happy to see his daughter. He went and lived in her house very happily.

Q12. Explain with reference to the context

"The woods are lovely, dark and deep,

But I have promises to keep,

And miles to go before I sleep

And miles to go before I sleep".

Ans. From 'Stopping by Woods on a Snow Evening' by Robert Frost. The poet says that he has a long way to go before resting.

Q13. Write the summary of "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 jungle he understood all the happenings of the jungle including every rustle of grass, the hooting of owls, roosting of the bats and the fish's splash 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 to jump from one branch to other. Mowgli 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 bears 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 men lay in the form of square boxes with drop gates to catch the animals.

Q14. Explain with reference to the context 'No, I will not give you any fish'.

Ans. From 'Velu, The Fisherman' Velu was greedy and selfish and he refused give fish to his friends.



Q15. Write 10-12 sentences on your college life.

Ans. College, subjects, activities, hobbies, daily routine etc.

Q 16. Make sentences using the following words: -

- (a) selfish - **He is selfish.**
- (b) stop - **The rain stopped.**
- (c) shake - **He was shaking with fear.**
- (d) wonderful - **It was wonderful.**
- (e) evening - **It was evening.**
- (f) teacher - **He is my teacher.**

Q17. Write the summary of 'Stopping by Woods on a Snowy Evening'.

Q18. Read the passage carefully and answer the questions given below:

Once in a jungle there lived a dog and a jackal. One day they saw a rabbit sitting in the bushes near a pond. The jackal wanted to eat the rabbit. He told the dog that they would chase and kill the rabbit.

The jackal wanted to make fun of the dog. He asked, 'Friend, can you catch the rabbit?' The dog was not very interested. The jackal said, 'It is a big rabbit. I am sure its meat will be very tasty. I wish we both could share this rabbit.'

So the dog ran after the rabbit. But the rabbit was too fast for the dog. The jackal made fun of his friend. He said, 'You are not a good hunter!' To this the dog replied, 'I ran after the rabbit to kill it. The rabbit ran for its life. One who runs for one's life can run really fast. So you please understand this fact before making fun of me.'

The jackal realized his mistake. He felt ashamed. He said, 'I am sorry, my friend.' The dog said, 'You have realized your mistake.'

Let's be friends forever.'

The jackal and the dog became good friends and the jackal never tried to make fun of anyone.

- (a) A dog and jackal lived in a _____.
 - (i) city
 - (ii) **jungle**
 - (iii) town
 - (iv) village

- (b) The jackal wanted to make fun of the _____.
 - (i) rat
 - (ii) cat
 - (iii) **dog**
 - (iv) camel



- (c) One day the dog and jackal saw a _____.
- (i) cat
 - (ii) jackal
 - (iii) dog
 - (iv) rabbit**
- (d) The _____ ran after the rabbit.
- (i) camel
 - (ii) jackal
 - (iii) cat
 - (iv) dog**
- (e) The rabbit was too _____ for the dog.
- (i) fast**
 - (ii) slow
 - (iii) good
 - (iv) bad
- (f) The _____ and the dog became good friends.
- (i) Camel
 - (ii) Jackal**
 - (iii) Cat
 - (iv) dog
-

Set B



School of General Education
Session: 2019-20 (Summer Semester)
B. Voc. Program, 1st Semester,
End-Sem. Examination

Course Code: GEN 1103

Time: 2 Hours

Course Name: Applied Mathematics

Max. Marks: 50

Instruction: 1. Calculator is strictly prohibited.
2. Missing data if any can be suitably assumed.

Section – A

10X01 = 10 Marks

Q1. If $A = \{1, 2, 3, 4, 5\}$ and $B = \{3, 5, 7, 9\}$, then $A - B$ is

- (A) $\{1\}$ (B) $\{1, 2, 4\}$
(C) $\{3, 5, 7, 9\}$ (D) $\{0\}$

Q2. Which of the following number is the prime number?

- (A) 100 (B) 41
(C) 15 (D) 81

Q3. $\frac{d}{dx}(\cos 4x) =$

- (A) $\cos 4x$ (B) $\frac{\sin 4x}{4}$
(C) $\frac{\cos 4x}{4}$ (D) none of them

Q4. $\frac{d}{dx}(7a) =$

- (A) 7 (B) a
(C) 0 (D) 1

Q5. $\lim_{x \rightarrow 1} x^2 + 7x$

- (A) 2 (B) 8
(C) 10 (D) 0

Q6. $\int 1 dx =$

- (A) $x + c$ (B) $4x + c$
(C) 0 (D) $x^4 + c$

Q7. $\int e^{2x} dx =$

- (A) $\frac{e^x}{2} + c$ (B) $\frac{e^{2x}}{2} + c$
(C) $\frac{e^{2x}}{x} + c$ (D) $\frac{e^{2x}}{2x} + c$

- Q8.** What is the range of the data 7, 13, 14, 6, 12, 17, 23?
- (A) 7 (B) 23
(C) 17 (D) 12

Q9. What is the mode of the following data?

4, 6, 8, 6, 6, 6, 8, 8, 8, 7, 7, 7, 7, 8, 5

- (A) 7 (B) 8
(C) 5 (D) 6

Q10. The median of the data arranged in ascending order 8, 9, 12, 18, (x+2), (x+4), 30, 31, 34, 39 is 24. The value of x is

- (A) 22 (B) 21
(C) 20 (D) 24

Section – B

04X04 = 16 Marks

Q11. Evaluate $\lim_{x \rightarrow 0} \frac{\sqrt{2+x} - \sqrt{2}}{x}$

Q12. Evaluate $\lim_{x \rightarrow 1/2} \frac{4x^2 - 1}{2x - 1}$

Q13. (a) If $\frac{x \sin^{-1} x}{\sqrt{1-x^2}}$, then find $\frac{dy}{dx}$.

(b) Evaluate $\int \sin^4 x \cos x dx$

Q14. The following table shows the number of students participating in various in a school.

Game	Cricket	Football	Basketball	Tennis
Number of students	34	40	15	5

Draw a bar graph to represent the above data.

Section – C

04X06 = 24 Marks

Q15. If $A = \{1, 2, 3, 4, 5\}$, $B = \{3, 4, 5, 13\}$, $C = \{5, 13, 15\}$, then find

- (a) $A \cup B$
(b) $A \cap B$
(c) $(A \cup B) \cap C$

Q16. Differentiate the following with respect to x.

- (a) $\frac{4x^3 + 6 \cos x}{2x^4 + 3}$
(b) $x^2 \cos^2 x$

Q17. Integrate the following with respect to x .

(a) $\int \frac{x-1}{x+1} dx$

(b) $\int \cos^{-1} x dx$

Q18.

(a) In a mathematics test given to 15 students, the following marks (out of 100) are recorded:

41, 39, 48, 52, 46, 62, 54, 40, 96, 52, 98, 40, 42, 52, 60

Find the mean, median and mode of the above data.

(b) A family with a monthly income of Rs. 20000 had planned the following expenditures per month under various heads:

Heads	Expenditures (in thousands)
Grocery	4
Rent	5
Education	2
Medicine	2
Fuel	2
Other	2

Draw a bar graph.



School of General Education
Session: 2019-20 (Summer Semester)
B. Voc. Program, 1st Semester,
End-Sem. Examination

Course Code: GEN 1103

Time: 2 Hours

Course Name: Applied Mathematics

Max. Marks: 50

Instruction: 1. Calculator is strictly prohibited.
2. Missing data if any can be suitably assumed.

Section – A

10X01 = 10 Marks

Q1. If $A = \{1, 2, 3, 4, 5\}$ and $B = \{3, 5, 7, 9\}$, then $A - B$ is

- (A) $\{1\}$ (B) $\{1, 2, 4\}$
(C) $\{3, 5, 7, 9\}$ (D) $\{0\}$

Q2. Which of the following number is the prime number?

- (A) 100 (B) 41
(C) 15 (D) 81

Q3. $\frac{d}{dx}(\cos 4x) =$

- (A) $\cos 4x$ (B) $\frac{\sin 4x}{4}$
(C) $\frac{\cos 4x}{4}$ (D) none of them

Q4. $\frac{d}{dx}(7a) =$

- (A) 7 (B) a
(C) 0 (D) 1

Q5. $\lim_{x \rightarrow 1} x^2 + 7x$

- (A) 2 (B) 8
(C) 10 (D) 0

Q6. $\int 1 dx =$

- (A) $x + c$ (B) $4x + c$
(C) 0 (D) $x^4 + c$

Q7. $\int e^{2x} dx =$

- (A) $\frac{e^x}{2} + c$ (B) $\frac{e^{2x}}{2} + c$
(C) $\frac{e^{2x}}{x} + c$ (D) $\frac{e^{2x}}{2x} + c$

- Q8.** What is the range of the data 7, 13, 14, 6, 12, 17, 23?
- (A) 7 (B) 23
(C) 17 (D) 12

Q9. What is the mode of the following data?

4, 6, 8, 6, 6, 6, 8, 8, 8, 7, 7, 7, 7, 8, 5

- (A) 7 (B) 8
(C) 5 (D) 6

Q10. The median of the data arranged in ascending order 8, 9, 12, 18, (x+2), (x+4), 30, 31, 34, 39 is 24. The value of x is

- (A) 22 (B) 21
(C) 20 (D) 24

Section – B

04X04 = 16 Marks

Q11. Evaluate $\lim_{x \rightarrow 0} \frac{\sqrt{2+x} - \sqrt{2}}{x}$

Q12. Evaluate $\lim_{x \rightarrow 1/2} \frac{4x^2 - 1}{2x - 1}$

Q13. (a) If $\frac{x \sin^{-1} x}{\sqrt{1-x^2}}$, then find $\frac{dy}{dx}$.

(b) Evaluate $\int \sin^4 x \cos x dx$

Q14. The following table shows the number of students participating in various in a school.

Game	Cricket	Football	Basketball	Tennis
Number of students	34	40	15	5

Draw a bar graph to represent the above data.

Section – C

04X06 = 24 Marks

Q15. If $A = \{1, 2, 3, 4, 5\}$, $B = \{3, 4, 5, 13\}$, $C = \{5, 13, 15\}$, then find

- (a) $A \cup B$
(b) $A \cap B$
(c) $(A \cup B) \cap C$

Q16. Differentiate the following with respect to x.

- (a) $\frac{4x^3 + 6 \cos x}{2x^4 + 3}$
(b) $x^2 \cos^2 x$

Q17. Integrate the following with respect to x .

(a) $\int \frac{x-1}{x+1} dx$

(b) $\int \cos^{-1} x dx$

Q18.

(a) In a mathematics test given to 15 students, the following marks (out of 100) are recorded:

41, 39, 48, 52, 46, 62, 54, 40, 96, 52, 98, 40, 42, 52, 60

Find the mean, median and mode of the above data.

(b) A family with a monthly income of Rs. 20000 had planned the following expenditures per month under various heads:

Heads	Expenditures (in thousands)
Grocery	4
Rent	5
Education	2
Medicine	2
Fuel	2
Other	2

Draw a bar graph.



School of General Education

Session: 2019-20 (Summer Semester)

B. Voc., 1st Semester,

End-Sem. Examination (Make -Up)

Course Code: GEN1104

Time: 2 Hours

Course Name: Elementary Mathematics

Max. Marks: 50

Instructions:

1. Calculator is strictly prohibited.
2. Missing data if any can be suitably assumed.

Section – A

10X01 = 10 Marks

1. $(12)_{10}$ in hexadecimal is represented as:
a) A (c) D
b) B (d) C
2. The sum of linear pair is:
a) 90° (c) 180°
b) 360° (d) 0°
3. $2\sin 30^\circ + 3 \sin^2 45^\circ$ is:
a) 1 (c) $5/2$
b) $3/4$ (d) 4
4. Convert $(15)_{10}$ to binary number:
a) $(11)_2$ (c) $(1111)_2$
b) $(100)_2$ (d)
5. Volume of cube is:
a) a^3 (c) a^2
b) $6a^2$ (d) $4a^2$
6. Find the radius of a circle whose diameter is 48 cm:
a) 32cm (c) 42cm
b) 24cm (d) none of these
7. Find the base of right- angled triangle whose hypotenuse and length of perpendicular is 13m and 12m respectively:
a) 25m (c) 5m
b) 25cm (d) 49m
8. Curved surface area of cone is:
a) $\pi r l$ (c) $2 \pi r h$
b) $\pi r^2 l$ (d) $\pi r^2 h$



BHARTIYA SKILL DEVELOPMENT UNIVERSITY

9. A man buys a cycle for Rs. 1400 and sells it at a loss of 15%. What is the selling price of the cycle?
- a) Rs. 1090 (c) Rs. 1190
b) Rs. 1160 (d) Rs. 1202
10. Area of circle with radius 7m is:
- a) 44cm (c) 154 m
b) 44cm² (d) 154 m²

Section – B

04X04 = 16 Marks

11. Alfred buys an old scooter for Rs. 4700 and spends Rs. 800 on its repairs. If he sells the scooter for Rs. 5800. Find his gain percent?
12. If $\sec \alpha = 5$, then find the value of $\frac{\tan \alpha}{1 + \tan^2 \alpha}$
13. If the circumference of the base of a right circular cylinder is 110 cm, then find its base area.
14. The total surface area of cube is 726 cm². Find the side and lateral surface area of cube?

Section – C

04X06 = 24 Marks

15. (a) Find the mean of the following data:
14,47,45,48,46
- (b) find the mode and median of:
25,12,12,36,5,5,4,5
16. (a) The diameter of a roller is 84 cm and its length is 120 cm. If it takes 500 revolutions to move over to level a playground. Find the total area covered to level the playground.
- (b) A cylindrical pillar is 50 cm in diameter and 3.5 cm in length. Find the cost of painting the curved surface area of at the rate of Rs. 12.50 m².
17. Convert the following:
- a) 32 km 250m = _____ m
b) 25m 5 cm = _____ cm
c) 2cm 65 mm = _____ mm
18. Find the L.C.M. and H.C.F of the following numbers and hence verify the results:
- (i) 12,18
(ii) 124,16
(iii) 145,55



School of Woodworking Skills
Session: 2019-20 (Summer Semester)
B. Voc. Program, I Semester,
End-Sem. Examination

Set B

Course Code: GEN 1104

Time: 2 Hour

Course Name: Elementary Mathematics

Max. Marks: 50

Instructions:

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

Section – A

Q 1. Which one of the following is the volume of cylinder, were "r" is radius and "h" is height of the cylinder?

- (A) $V = 2\pi r^2 h$ (B) $V = \pi R^2 h$ (C) $V = \pi r^2 h^2$ (D) $V = \pi r^2 h$ D

Q 2. How many inches are there in 1.5 meter?

- (A) 60.80 inch (B) 58.9 inch (C) 59.05 inch (D) 61-inch B

Q 3. Which one of the following is the Conversion Scientific notation conversion of 0.0001?

- (A) 10^5 (B) 10^{-4} (C) 10^6 (D) 10^{-6} B

Q 4. Which one of the following is 14% of 50?

- (A) 3.5 (B) 7.5 (C) 3 (D) 7 D

Q 5. Which one of the following is the value of $30/30^5$?

- (A) 0.01 (B) 0.001 (C) 0.0001 (D) None of these D

Q 6 Which one of the following is the Circumference of circle having radius 4cm ?

- (A) 8π (B) $2\pi^2$ (C) 3π (D) 1 A

Q 7 Which one of the following is 5% of 60?

- (A) 6 (B) 7.5 (C) 3 (D) 7 C

Q 8. Which one of the following is the area of circle having radius "r"?

- (A) $A = \pi r^2 / 2$ (B) $A = 3\pi r^2$ (C) $A = \pi r^2$ (D) $A = 2\pi r^2$ C

Q 9 Which one of the following is the area of Particle board having length 6 feet and width 4 feet?

- (A) 24 square feet (B) 40 square feet (C) 45 square feet (D) 50 square feet A

Q 10. If the hypotenuse of a right triangle is 13 inch and one leg is 5 inch, find the measure of the other leg

- (A) 3 inch (B) 12 inch (C) 5 inch (D) 2 inch B



Section – B

Q.11 Calculate the volume of cylinder in having diameter 20 cm and height 45 cm.

$$\begin{aligned}V &= \pi r^2 h \\&= \frac{22}{7} \times 20 \times 20 \times 45 \\&= 56,571.42 \text{ (mm)}^3\end{aligned}$$

Q.12. Vikas constructed an Table in 2000 Rs and sold it with 10% loss, calculate selling price of Table.

$$\begin{aligned}\text{S.L} &= \text{P.P} - \text{Loss} \\&= 2000 - 2000 \times \frac{10}{100} \\&= 2000 - 200 \\ \text{S.L} &= 1800 \text{ Rs.}\end{aligned}$$

Q.13 Find out the value of $[2(10)^2+ 3(0.001)^2+ 1(0.001)^2]$ cm in mm.

$$\begin{aligned}&= 200 + \frac{3}{1000 \times 1000} + \frac{1}{1000 \times 1000} \\&= 200 + \frac{3}{10^6} + \frac{1}{10^6} \\&\quad \frac{(200 \times 10^6) + 3 + 1}{10^6}\end{aligned}$$

Q.14 Find the area of a rectangular shaped lot with a length of 60 yards and a width of 30 yards.

$$\begin{aligned}\text{area} &= L \times W \\&= 60 \times 30 \\&= 1800 \text{ (Yards)}^2\end{aligned}$$



BHARTIYA SKILL DEVELOPMENT UNIVERSITY

Section - C

Q 15. A wooden product outlet purchased a dining table in 10000 Rs and sold it with 20% loss. find out the selling price, if wooden product outlet wants to earn 20% profit by keeping selling price same, what should be the purchasing price for dining table.

$$\begin{aligned} P.P &= 10,000 \\ \text{Loss} &= 20\% \\ S.L &= 10000 - 10000 \times \frac{20}{100} \\ S.L &= 8,000 \\ P.P &= S.L - \text{Profit} \\ x &= 8000 - x \cdot \frac{20}{100} \end{aligned}$$

Q16. You want to put down hardwood floors in your living room that is roughly 20 feet by 15 feet. If the cost of the hardwood flooring is \$7.00 per square foot, find the approximate cost not including labor to put down hardwood flooring in your living room?

$$\begin{aligned} \text{Floor area} &= 20 \times 15 = 300 \text{ (sq ft)} \\ \text{Cost} &= 7.00 \$ \\ \text{Total cost} &= 300 \times 7 \\ &= 2100 \$ \end{aligned}$$

Q17. If you deposit Rs.5000 into an account paying 7% annual interest compounded quarterly, how much money will be in the account after 5 years.

$$\begin{aligned} F.V &= 5000 \left(1 + \frac{0.07}{4} \right)^{4(5)} \\ F.V &= 5000 \left(\frac{4 + 0.07}{4} \right)^{20} \\ &= \end{aligned}$$

Q 18. A broker purchased a bench in 5000 Rs and sold it with 20% profit. find out the selling price, if broker wants to earn double of its profit by keeping selling price same what should be the purchasing price.

$$\begin{aligned} P.P &= 5000, \text{ Profit } 20\% \\ S.L &= P.P + \text{Profit} \\ &= 5000 + 5000 \times \frac{20}{100} \\ S.L &= 6000 \text{ Rs} \end{aligned}$$

$$S.L = P.P + \text{Roh}$$

$$6000 = P.P + 2000$$

$$P.P = 4000$$

**School of Woodworking Skills****Session: 2019-20 (Summer Semester)****B. Voc. Program, I Semester,****End-Sem. Examination****Course Code: GEN 1104****Time: 2 Hour****Course Name: Elementary Mathematics****Max. Marks: 50****Instructions:**

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

Section – A

Q 1. Which one of the following is the volume of cylinder, were "r" is radius and "h" is height of the cylinder?

- (A) $V = 2\pi r^2 h$ (B) $V = \pi R^2 h$ (C) $V = \pi r^2 h^2$ (D) $V = \pi r^2 h$

Q 2. How many inches are there in 1.5 meter?

- (A) 60.80 inch (B) 58.9 inch (C) 59.05 inch (D) 61-inch

Q 3. Which one of the following is the Conversion Scientific notation conversion of 0.0001?

- (A) 10^5 (B) 10^{-4} (C) 10^6 (D) 10^{-6}

Q 4. Which one of the following is 14% of 50?

- (A) 3.5 (B) 7.5 (C) 3 (D) 7

Q 5. Which one of the following is the value of $30/30^5$?

- (A) 0.01 (B) 0.001 (C) 0.0001 (D) None of these

Q 6 Which one of the following is the Circumference of circle having radius 4cm ?

- (A) 8π (B) $2\pi^2$ (C) 3π (D) 1

Q 7 Which one of the following is 5% of 60?

- (A) 6 (B) 7.5 (C) 3 (D) 7

Q 8. Which one of the following is the area of circle having radius "r"?

- (A) $A = \pi r^2 / 2$ (B) $A = 3\pi r^2$ (C) $A = \pi r^2$ (D) $A = 2\pi r^2$

Q 9 Which one of the following is the area of Particle board having length 6 feet and width 4 feet?

- (A) 24 square feet (B) 40 square feet (C) 45 square feet (D) 50 square feet

Q 10. If the hypotenuse of a right triangle is 13 inch and one leg is 5 inch, find the size of the other leg

- (A) 3 inch (B) 12 inch (C) 5 inch (D) 2 inch



Section – B

Q.11 Calculate the volume of cylinder in having diameter 20 cm and height 45 cm.

Q.12. Vikas constructed an Table in 2000 Rs and sold it with 10% loss, calculate selling price of Table.

Q.13 Find out the value of $[2(10)^2+ 3(0.001)^2 + 1(0.001)^2]$ cm in mm.

Q.14 Find the area of a rectangular shaped lot with a length of 60 yards and a width of 30 yards.

Section – C

Q15. A wooden product outlet purchased a dining table in 10000 Rs and sold it with 20% loss. find out the selling price, if wooden product outlet wants to earn 20% profit by keeping selling price same, what should be the purchasing price for dining table.

Q16. You want to put down hardwood floors in your living room that is roughly 20 feet by 15 feet. If the cost of the hardwood flooring is \$7.00 per square foot, find the approximate cost not including labor to put down hardwood flooring in your living room?

Q17. If you deposit Rs.5000 into an account paying 7% annual interest compounded quarterly, how much money will be in the account after 5 years.

Q 18. A broker purchased a bench in 5000 Rs and sold it with 20% profit. find out the selling price, if broker wants to earn double of its profit by keeping selling price same what should be the purchasing price.



School of General Education

Session: 2019-20 (Summer Semester)

B. Voc., 1st Semester,

End-Sem. Examination

Course Code: GEN1104

Time: 2 Hours

Course Name: Elementary Mathematics

Max. Marks: 50

Instructions:

1. Attempt all questions
2. Calculator is strictly prohibited.
3. Missing data if any can be suitably assumed.

Section – A

10X01 = 10 Marks

Q 1. $(12)_{10}$ in hexadecimal is represented as:

- (a) A (c) D
(b) B (d) C

Q 2. The sum of linear pair is:

- (a) 90° (c) 180°
(b) 360° (d) 0°

Q 3. $2\sin 30^\circ + 3 \sin^2 45^\circ$ is:

- (a) 1 (c) $5/2$
(b) $3/4$ (d) 4

Q 4. Convert $(15)_{10}$ to binary number:

- (a) $(11)_2$ (c) $(1111)_2$
(b) $(100)_2$ (d) none of them

Q 5. Volume of cube is:

- (a) a^3 (c) a^2
(b) $6a^2$ (d) $4a^2$

Q 6. Find the radius of a circle whose diameter is 48 cm:

- (a) 32cm (c) 42cm
(b) 24cm (d) none of these

Q 7. Find the base of right- angled triangle whose hypotenuse and length of perpendicular is 13m and 12m respectively:

- (a) 25m (c) 5m
(b) 25cm (d) 49m

Q 8. Curved surface area of cone is:

- (a) $\pi r l$ (c) $2 \pi r h$
(b) $\pi r^2 l$ (d) $\pi r^2 h$



- Q 9.** A man buys a cycle for Rs. 1400 and sells it at a loss of 15%. What is the selling price of the cycle?
- (a) Rs. 1090 (c) Rs. 1190
(b) Rs. 1160 (d) Rs. 1202
- Q 10.** Area of circle with radius 7m is:
- (a) 44cm (c) 154 m
(b) 44cm² (d) 154 m²

Section – B

04X04 = 16 Marks

- Q 11.** Alfred buys an old scooter for Rs. 4700 and spends Rs. 800 on its repairs. If he sells the scooter for Rs. 5800. Find his gain percent?
- Q 12.** If $\sec \alpha = 5$, then find the value of $\frac{\tan \alpha}{1 + \tan^2 \alpha}$.
- Q 13.** If the circumference of the base of a right circular cylinder is 110 cm, then find its base area.
- Q 14.** The total surface area of cube is 726 cm². Find the side and lateral surface area of cube?

Section – C

04X06 = 24 Marks

- Q 15.** (a) A person incurs a loss of 5% by selling a watch for Rs. 1140. At what price should the watch be sold to earn 5% profit.
(b) A man buys an item at Rs. 1200 and sells it at the loss of 20 %. Then find the selling price of item.
- Q 16.** (a) The diameter of a roller is 84 cm and its length is 120 cm. if it takes 500 revolutions to move over to level a playground. Find the total area covered to level the playground.
(b) A cylindrical pillar is 50 cm in diameter and 3.5 cm in length. Find the cost of painting the curved surface area of at the rate of Rs. 12.50 m².
- Q 17.** (a) A ladder 6.5 m long rests against a vertical wall. If the foot of the ladder is 2.5 m from the foot of the wall. Find up to how much height does the ladder reach?
(b) A rectangle has a width of 12 inches and a diagonal of 20 inches. Find the length of rectangle?
- Q18.** Find the L.C.M. and H.C.F of the following numbers and hence verify the results:
(i) 12,18 (ii) 124,16 (iii) 145,55

COURSE CODE:- GEN1104

COURSE NAME:- Elementary Mathematics

Section-A

- 1.) [d] C
- 2.) [c] 180°
- 3.) [c] $5/2$
- 4.) [c] $(1111)_2$
- 5.) [a] a^3
- 6.) [b] 24cm
- 7.) [c] 5m
- 8.) [a] πrL
- 9.) [c] Rs. 1190
- 10.) [d] $154m^2$

Section-B

$$\begin{aligned} 11.) \text{ C.P. of scooter} &= 4700 + 800 \\ &= 5500 \text{ Rs.} \end{aligned}$$

$$\text{S.P. of scooter} = \text{Rs } 5800$$

$$\text{Profit} = \text{S.P.} - \text{C.P.}$$

$$P = 5800 - 5500$$

$$= 300 \text{ Rs.}$$

$$P\% = \frac{P}{L.P} \times 100$$

$$= \frac{300}{5500} \times 100$$

$$= \frac{60}{11} = 5 \frac{5}{11} \%$$

$$P\% = 5 \frac{5}{11} \%$$

12.) $\sec \alpha = 5$

$$AC^2 = AB^2 + BC^2$$

$$(5)^2 = AB^2 + 1$$

$$25 - 1 = AB^2$$

$$\sqrt{24} = AB$$

$$2\sqrt{6} = AB$$

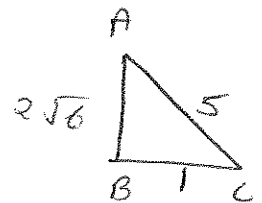
$$\tan \alpha = \frac{2\sqrt{6}}{1}$$

$$1 + \tan^2 \alpha = 1 + 4 \times 6$$

$$= 1 + 24$$

$$= 25$$

$$\therefore \frac{\tan \alpha}{1 + \tan^2 \alpha} = \frac{2\sqrt{6}}{25}$$



13) circumference of circle = $2\pi r$

$$110 = 2 \times \frac{22}{7} \times r$$

$$\frac{510}{40 \times 7} = r$$

$$\frac{2 \times 22}{2}$$

$$r = \frac{35}{2} \text{ cm}$$

$$\begin{aligned} \text{Area} &= \pi r^2 \\ &= \frac{11}{22} \times \frac{5}{2} \times \frac{35}{2} \\ &= \frac{55 \times 35}{2} \\ &= 962.5 \text{ cm}^2 \end{aligned}$$

14.) Total surface area of cube = $6a^2$

$$726 = 6a^2$$

$$\frac{726}{6} = a^2$$

$$\boxed{a = 11 \text{ cm}}$$

L.S.A of cube = $4a^2$

$$= 4 \times 11 \times 11$$

$$= 44 \times 11$$

$$= 484 \text{ cm}^2$$

15.)

Section-C

10.) S.P. = Rs. 1140

L = 5%

$$C.P. = \frac{100}{95} \times 1140$$

$$C.P. = \text{Rs. } 1200$$

$$P = 5\%$$

$$S.P. = \frac{105}{100} \times 1200$$

$$P. = \text{Rs. } 8.75$$

$$b.) \text{ C.P.} = 1200 \text{ Rs.}$$

$$\text{L.O.} = 20\%$$

$$\text{S.P.} = \frac{80^{20}}{31200} \times 1000$$

$$= 6.66 \text{ Rs.}$$

16. a) Curved surface area of cylinder = $2\pi rh$

$$= 2 \times \frac{22}{7} \times 4\frac{6}{2} \times 120$$

$$= 12 \times 22 \times 120$$

$$= 31680 \text{ cm}^2$$

$$\text{Area} = 31680 \times 500$$

$$= 1,58,40,000 \text{ cm}^2.$$

b) C.S.A. of cylinder = $2\pi rh$

$$= 2 \times \frac{22}{7} \times 25 \times \frac{265}{100}$$

$$= 550 \text{ cm}^2.$$

$$\text{Cost} = 550 \times 12.50$$

$$= 6875 \text{ Rs.}$$

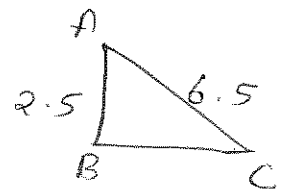
$$17. a) AC^2 = AB^2 + BC^2$$

$$(6.5)^2 = (2.5)^2 + BC^2$$

$$42.25 = 6.25 + BC^2$$

$$36 = BC^2$$

$$BC = 6 \text{ m}$$



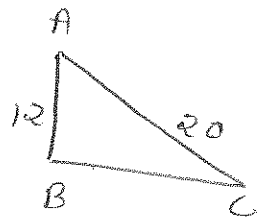
$$b) \cdot AC^2 = AB^2 + BC^2$$

$$\cdot (20)^2 = (12)^2 + BC^2$$

$$400 - 144 = BC^2$$

$$256 = BC$$

$$16 \text{ inches} = BC$$



$$18.) i) 12, 18$$

$$\begin{array}{r|l} 2 & 12, 18 \\ \hline 2 & 6, 9 \\ \hline 3 & 3, 9 \\ \hline 3 & 1, 3 \\ \hline & 1, 1 \end{array}$$

$$L.C.M. = 2 \times 2 \times 3 \times 3$$

$$= 4 \times 9$$

$$= 36$$

$$12 \times 18 = 6 \times 36$$

$$216 = 216$$

$$\begin{array}{r|l} 2 & 12 \\ \hline 2 & 6 \\ \hline 3 & 3 \\ \hline & 1 \end{array}$$

$$\begin{array}{r|l} 2 & 18 \\ \hline 3 & 9 \\ \hline 3 & 3 \\ \hline & 1 \end{array}$$

$$12 = 2 \times 2 \times 3$$

$$18 = 2 \times 3 \times 3$$

$$H.C.F. = 2 \times 3$$

$$= 6$$

$$ii) 124, 16$$

$$\begin{array}{r|l} 2 & 124, 16 \\ \hline 2 & 62, 8 \\ \hline 2 & 31, 4 \\ \hline 2 & 31, 2 \\ \hline 31 & 31, 1 \\ \hline & 1, 1 \end{array}$$

$$L.C.M. = 496$$

$$496 \times 4 = 124 \times 16$$

$$1984 = 1984$$

$$\begin{array}{r|l} 2 & 124 \\ \hline 2 & 62 \\ \hline 31 & 31 \\ \hline & 1 \end{array}$$

$$\begin{array}{r|l} 2 & 16 \\ \hline 2 & 8 \\ \hline 2 & 4 \\ \hline 2 & 2 \\ \hline & 1 \end{array}$$

$$124 = 2 \times 2 \times 31$$

$$16 = 2 \times 2 \times 2 \times 2$$

$$H.C.F. = 2 \times 2 = 4$$

(iii)

$$\begin{array}{r|l} 5 & 145, 55 \\ \hline 29 & 29, 11 \\ \hline 11 & 1, 1 \\ \hline & 1, 1 \end{array}$$

$$\begin{aligned} \text{LCM} &= 5 \times 29 \times 11 \\ &= 1595 \end{aligned}$$

$$\begin{array}{r|l} 5 & 145 \\ \hline 29 & 29 \\ \hline & 1 \end{array}$$

$$\text{H.C.F} = 5$$

$$\begin{array}{r|l} 5 & 55 \\ \hline 11 & 11 \\ \hline & 1 \end{array}$$

$$1595 \times 5 = 145 \times 55$$

$$7975 = 7975$$