G – 2468

Reg. No. : ....

Name : ....

Second Semester B.Sc. Degree Examination, May 2019.

First Degree Programme under CBCSS

Mathematics

Foundation Course II

MM 1221 : FOUNDATIONS OF MATHEMATICS

(2018 Admission)

Time : 3 Hours   Max. Marks : 80

PART – A

All the first **ten** questions are compulsory and each carries 1 mark.

1. Construct a truth table for the compound statement $\sim (p \wedge q) \Leftrightarrow [(\sim p) \vee (\sim q)]$.

2. Write the negation statement of "If (a_n) is monotone and bounded, then (a_n) is convergent.

3. If the function $g(n, m) = n^2 + n + m$, where n and m are positive integers. Then find $g(16, 17)$.

4. Let f be the function given by $f(x) = 4x + 7$. Use the contrapositive implication to prove the statement. If $x_1 \neq x_2$, then $f(x_1) \neq f(x_2)$.

5. Given an example of a relation which is reflexive but not symmetric and not transitive.

6. Find the slope of $x = \sec t, y = \tan t$ at $t\,\pi/3$.

7. Find the arc length of the spiral $r = e^{\theta}, 0 \le \theta \le \overline{n}$.

8. Find an equation for the ellipse with foci $(0, \pm 2)$ and major axis with end points $(0, \pm 4)$.

9. Find the norm of $v = -3i + 2j + k$.

10. Find the vector orthogonal to both of the vectors $\overline{u} = (2, -1, 3)$ and $\overline{v} = (-7,\ 2, -1)$.

(10 × 1 = 10 Marks)

PART – B

Answer **any eight** questions 11 to 22. Each question carries **2** marks.

11. Write the four different types of negation statement of "$\forall \xi > 0 \exists N \to \forall n$, if $n \ge N$, then $\forall x$ in S, $\|fn(x) - f(x)\| < \xi$".

12. If x in rational and y in irrational, than prove that xy is irrational.

13. Let $S = \{x \in R, x > 0\}$. For each $x \in S$, let $A_x\left(-\dfrac{1}{x}, \dfrac{1}{x}\right)$. Find $\bigcap\limits_{x \in S} Ax$.

14. Define a relation R on N × N by $(a, b)R\,(c, d)$ iff $a^d = c^d$.

   (a) Find an equivalence class with exactly two elements.

   (b) Find an equivalence class with exactly tour elements.

15. Let $f: A \to B$ and $g: B \to C$ be two injective functions. Show that the composition $g \circ f: A \to C$ is injective.

16. Find all values of t at which the parametric curve. $x = 2\sin t, y = 4\cos t$ $(0 \le t \le 2\pi)$ has horizontal tangent line.

17. Find the polar coordinates of the point P whose rectangular coordinates are $\left(-2, -2\sqrt{3}\right)$.

18. Sketch the graph $r = \cos 2\theta$. Also verify it is symmetric or not.

19. Find the area of the region inside the cardioid $r = 2 + 2ws\theta$ and outside the circle $r = 3$.

20. Describe the surface whose equation is $2x^2 + 2y^2 + 2z^2 - 2x - 3y + 5z - 2 = 0$.

21. Find the angle between a diagonal of a cube and one of its edges.

22. Let u and v be non-zero vectors in 3 – pace, and let θ be the angle between these vectors when they are positioned so their initial points coincide. Prove that $\|u \times v\| = \|u\| \|v\| \sin\theta$.

(8 × 2 = 16 Marks)

PART – C

Answer **any six** questions from questions 23 to 31. Each question carry **4** marks.

23. Define a new sentential connective ∇, called nor by the following truth table.

p	q	p∇q
T	T	F
T	F	F
F	T	F
F	F	F

(a) Use a truth table to show that $p \nabla p$ is logically equivalent to ~ p.

(b) Complete a truth table for $(p\nabla p) \nabla (q\nabla q)$.

G – 2468

24. Find $\bigcup_{B \in \mathscr{B}} B$ and $\bigcap_{B \in \mathscr{B}} B$ or each collection $\mathscr{B}$.

(a) $\mathscr{B} = \left\{ \left[1 + 1 + \dfrac{1}{n} \right] : n \in N \right\}$,

(b) $\mathscr{B} = \left\{ \left[1 + 1 + \dfrac{1}{n} \right] : n \in N \right\}$,

(c) $\mathscr{B} = \{[2, x] \, x \in R \text{ and } n > 2\}$

(d) $\mathscr{B} = \{[0, 3], [1, 5], [2, 4]\}$.

25. Determine which of the three properties (reflexive, symmetric and transitive) apply to each relation.

(a) Let S be the set of people in the school. Define R on S xRY iff "n likes y"

(b) Let R be the relation on R given by xRY iff $|x - y| \leq 2$.

26. Sketch the curve by eliminating the parameter and indicates the direction of increasing t

(a) $x = 3t - 4$, $y = 6t + 2$

(b) $x = \sec t, \, y = \tan t \left(\pi, t \leq 3\dfrac{\pi}{2} \right)$.

27. Describe the graph of the equation $x^2 - y^2 - 4x + 8y - 21 = 0$.

28. Find the total arc length of the cardioid $r = 1 + \cos \theta$.

29. Determine whether $u = \langle 4, 1, 6 \rangle$ and $v = \langle -3, 0, 2 \rangle$ make an a cute angle, an obtuse angle or orthogonal.

30. Find the parametric equations of the line that satisfies the stated conditions :

(a) The line that is tangent to the circle $x^2 + y^2 = 25$ at the point $(3, -4)$

(b) The line through the origin that in parallel to the line given by $x = t, y = -1 + 4, z = 2$.

31. Sketch the graph of hyperboloid of two sheets $z^2 - x^2 \dfrac{y^2}{4} = 1$.

(6 × 4 = 24 Marks)

PART – D

Answer **any two** from questions 32 to 35. Each question carry **15** marks.

32. Prove the following :

(a) There exists an integer n such that $n^2 + 3\dfrac{n}{2} = 1$. Is this integer unique?

(b) For every real number $x > 5$, there exists a real number $y < 0$ such that $x = \dfrac{5y}{y + 3}$.

(c) $\log_2$ is irrational.

(d) For every positive integer $n^2 + 4n + 8$ is even.

33. (a) Define a relation R on the set of all integers Z by xRY iff $x = y = 2k$ for some integer K. Verify that R is an equivalence relation and describe the equivalence class E_5. How many distinct equivalence classes are there?

(b) Let $f : A \to B$ and $g : B \to C$ by bijective functions show that the composition $g \circ f : A \to C$ is bijective and $(g \circ f)^{-1} = f^{-1} \circ g^{-1}$.

34. (a) Find the slope of the tangent line to the circle $r = 4\cos\theta$ at the point where $\theta = \dfrac{\pi}{4}$.

(b) Find the points on the cardioid $r = 1 - \cos\theta$ at which there is a horizontal tangent line, a vertical tangent line or a singular point.

35. (a) Find the equation of the plane through the points $P_1(1, 2, -1), P_2(2, 3, 1)$ and $P_3(3, -1, 2)$.

(b) Determine whether the planes $3x - 4y + 5z = 0$ and $-6x + 8y - 10z - 4 = 0$ are parallel.

(c) Let $L_1 : x = 1 + 4t, y = 5 - 4t, z = -1 + 5t, L_2 : x = 2 + 8t, y = 4 - 3t, z = 5 + t$ be two lines. Are the lines parallel?

(2 × 15 = 30 Marks)

6

Reg. No. : ....

Name : ....

Second Semester B.A./B.Sc. Degree Examination, May 2019

First Degree Programme under CBCSS

MALAYALAM LANGUAGE

Language Course V – Additional Language

ML 1211.1 : ഗദ്യസാഹിത്യം

(2018 admission)

Time : 3 Hours　　　　　　　　　　　　　　　　Max. Marks : 80

I.　ഒരു വാക്കിലോ രണ്ടു വാക്യത്തിലോ ഉത്തരം എഴുതുക.

1.　ലക്ഷണമൊത്ത� ആദ്യ മലയാള നോവൽ ഏത്?

2.　ധാർത്താണ്ഡവർമ്മ എന്ന നോവൽ എഴുതിയതാര്?

3.　വാസനാവികൃതി എന്ന കഥയുടെ കർത്താവ് ആര്?

4.　ഭാരതപര്യടനം എഴുതിയതാര്?

5.　തകഴിയുടെ രണ്ട് നോവലിന്റെ പേരെഴുതുക.

6.　സുന്ദരികളും സുന്ദരന്മാരും എന്ന നോവൽ എഴുതിയതാര്?

7.　ക്ലാസ്സിൽ ഒന്നാംസ്ഥാനം അവൾക്ക് നിർബന്ധമായിരുന്നു. ആർക്ക്?

8.　കാല്പനികതയ്ക്ക് കേസരി ബാലകൃഷ്ണപിള്ള നിർദ്ദേശിച്ച പേര് എന്ത്?

III. 120 വാക്കില്‍ കവിയാതെ ആറ് ചോദ്യത്തിന് ഉത്തരം എഴുതുക.

23. ഉമ്മാച്ചുവിനെ മായന്‍ പുനര്‍വിവാഹം ചെയ്യാനുണ്ടായ സാഹചര്യം എന്ത്?

24. ഉമ്മാച്ചുവിന്റെ തറവാട് ഭാഗിക്കാന്‍ ഇടയായ സാഹചര്യം എഴുതുക.

25. ആദ്യകാല കഥകളുടെ എല്ലാ പ്രത്യേകതകളും ഉള്‍ക്കൊള്ളുന്ന കഥയാണ് ആരാന്റെ കുട്ടി. വിശദമാക്കുക.

26. ദുഃഖത്തിന്റെ തീവ്രത കടല്‍ത്തീരത്ത് എന്ന കഥയില്‍ ആവിഷ്കരിക്കുന്നത് എങ്ങനെ?

27. നവോത്ഥാന നോവലുകളെ പറ്റി പ്രതിപാദിക്കുക.

28. മലയാളത്തിലെ കാല്‍പനികതയെപ്പറ്റി ചുരുക്കി എഴുതുക.

29. ഇ.എം.എസ്. മലയാളഭാഷയെ വിശകലനം ചെയ്യുന്നത് എങ്ങനെ?

30. പാരമ്പര്യത്തെ വെല്ലുവിളിച്ച ചീനമുളകാണ് ചിന്നമ്മു. വിശദമാക്കുക.

31. ഇതുപ്പാന്റെ വിഷമത്തിന് കാരണമെന്ത്?

(6 × 4 = 24 Marks)

IV. മൂന്നു പുറത്തില്‍ കവിയാതെ **രണ്ടു** ചോദ്യത്തിന് ഉത്തരമെഴുതുക.

32. സ്ത്രീകളോടുള്ള ക്രൂരത അനാവരണം ചെയ്യുന്ന കഥയാണ് കൃഷ്ണഗാഥ. ചര്‍ച്ച ചെയ്യുക.

33. മലയാള പ്രതിഭകളുടെ മൗനത്തോടുള്ള താല്പര്യം കെ.പി. അപ്പന്‍ ആവിഷ്കരിച്ചിരിക്കുന്നത് എങ്ങനെ?

34. ചാപ്പുണ്ണി നായര്‍ എന്ന കഥാപാത്രത്തെ നിരൂപണം ചെയ്യുക.

35. എം.ടി. കഥകളുടെ പൊതുസ്വഭാവം പ്രകടിപ്പിക്കുന്ന ഒരു കഥയാണ് കര്‍ക്കിടകം - ചര്‍ച്ച ചെയ്യുക.

(2 × 15 = 30 Marks)

Reg. No. : ....

Name : ....

Second Semester B.Sc. Degree Examination, May 2019

First Degree Programme under CBCSS

Complementary Course for Mathematics

ST 1231.1 : PROBABILITY AND RANDOM VARIABLES

(2018 Admission)

Time : 3 Hours   Max. Marks : 80

SECTION – A

Answer **all** questions. Each question carries **1** mark. :

1. Define random variable $\overline{a}$ with suitable example.

2. If two events A and B are disjoint, show that $P(A \cup B) = P(A) + P(B)$.

3. Define independence of events with example.

4. Define a posteriori probability.

5. What is the classical definition of probability?

6. Mention any two properties of probability mass function of a discrete random variable.

7. Define the probability density function of a continuous random variable.

8. Define mathematical expectation of a random variable.

9. Distinguish between raw moments and central moments.

10. For two independent random variables X and Y, show that $M_t(X + Y) = M_t(X).M_t(Y)$.

$(10 \times 1 = 10$ **Marks**$)$

P.T.O.

SECTION – B

Answer any **eight** questions. Each question carries **2** marks. :

11. Four students are selected from 5 boys and 3 girls. What is probability that the selected group contains only boys?

12. Using axioms of probability, show that $P(\overline{A}) = 1 - P(A)$.

13. If an unbiased coin is tossed 5 times, find the probability that all of them are not head.

14. Define conditional probability of two events A and B with suitable examples.

15. If two events A and B are independent, show that the events $\overline{A}$ and $\overline{B}$ are independent.

16. When will you say that several events are mutually exclusive and exhaustive. Also give an example.

17. Distinguish between discrete and continuous random variables.

18. If a random variable X has the pdf $f(x) = kx$, $x = 1,2,3,4,5$, find the values of k. Also find $P(X \geq 4)$

19. If a random variable X has pdf $f(x) = \dfrac{1}{3}$, $x = 1, 2, 3$, find the distribution of the random variable $Y = 2X + 3$.

20. For a random variable X, show that $\mu_0 = 1$ and $,\mu_1 = 0$, where μ_r represents the rth central moment of X.

21. For two independent random variables, show that $E(XY) = E(X).E(Y)$.

22. Define moment generating function of a random variable. Show by an example that it does not exists always.

(8 × 2 = 16 Marks)

SECTION – C

Answer any **six** questions. Each question carries **4** marks. :

23. Define statistical regularity and explain how probability can be defined using this property.

24. A bag contains 3 red, 6 white and 7 blue balls. What is the probability that two balls drawn are white and blue?

25. A dice is biased so that the chance of happening the even number is twice as that of an odd number. If the dice is thrown two times, what is the probability that sum of the two numbers thrown is an even number?

26. A bag contains four tickets with numbers 112,121,211,222. One ticket is drawn and the number is noted. Let A_1 be the event that the first digit of the number in the drawn ticket is one. Similarly A_2 and A_3 are the events that second and third digits of the number in the drawn ticket is one. Examine whether A_1, A_2 and A_3 are independent.

27. A continuous random variable X had pdf $f(x) = Ax^2$, $0 < x < 1$. Determine the value of A and find $P\left[\dfrac{1}{3} < X < \dfrac{2}{3}\right]$.

28. The joint pdf of two random variables X and Y is

$$f(x, y) = \frac{1}{27}(x + 2y), \ x = 0, 1, 2; \ y = 0,1, 2.$$

    (a) Find the marginal density functions of X and Y

    (b) Find the conditional distribution of Y given $X = x$.

29. If a random variable X has pdf $f(x) = 1$, $0 < x < 1$, find the distribution of $Y = -2\log(X)$.

30. State and prove Cauchy - Schawrtz inequality.

31. A random variable X has pdf $f(x) = \lambda e^{-\lambda x}$, $0 < x < \infty$. Find the moment generating function and hence its mean and variance.

(6 × 4 = 24 Marks)

        G –2469

SECTION – D

Answer any **two** questions. Each question carries **15** marks. :

32. (a) Define axiomatic definition of probability.

   (b) A man forgets the last digit of a telephone number and he dials the last digit at random.What is the probability of calling no more than three wrong numbers?

33. (a) State and prove Baye's theorem.

   (b) There are two identical boxes contains 5 white and 4 red balls, 4 white and 6 red balls. A box selected at random and a ball is drawn from it. If the drawn ball is red, what is the probability that it is from the second box?

34. (a) Define the distribution function of a random variable. What are its important properties.

   (b) A random variable X has the following probability density function

X:	-2	-1	0	1	2	3
$p(x)$:	0.1	k	0.2	$2k$	0.3	k

   Find the value of k and also find the distribution function of X.

35. (a) Define the variance of a random variable and covariance between two random variables.

   (b) If the joint density function of a bivariate random variable (X, Y) is
   $$f(x, y) = \begin{array}{ll} 2 - x - y, & 0 < x < 1, \quad 0 < y < 1 \\ 0, & otherwise \end{array}$$

   Find the variance of X and Y and covariance between X and Y.

   (2 × 15 = 30 Marks)

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Reg. No. : ....

Name : ....

Second Semester B.Sc. Degree Examination, May 2019

First Degree Programme under CBCSS

Complementary Course

PY 1231.1 – THERMAL PHYSICS AND STATISTICAL MECHANICS

(For Mathematics)

(2018 Admission)

Time : 3 Hours   Max. Marks : 80

PART – A

Answer **all** questions. Answer should not exceed two sentences. Each question carries **1** mark.

1. Define the term macro state with the help of an example.

2. Explain phase space of a system.

3. State Rayleigh-Jeans law.

4. Explain the term thermodynamic probability.

5. State Kelvin statement of second law of thermodynamic.

6. Give the Planck's quantum postulates.

7. Why does the temperature of a gas decrease, When it is expanded adiabatically?

8. Explain the term isentropic of curves of constant entropy.

9. Define the term entropy.

10. Explain the term Isothermal process.

<div align="right">(10 × 1 = 10 Marks)</div>

PART – B

Answer **any eight** questions. Answer should not exceed one small paragraph. Each question carries **2** marks.

11. Distinguish between canonical and grand canonical ensemble.

12. Obtain an expression for the change in entropy when ice changes in to steam.

13. Deduce the expression for work done during adiabatic processes.

14. Mention the effective ways to increase Carnot's engine efficiency.

15. Define coefficient of thermal conductivity. What are its dimensions?

16. Explain the temperature dependence of a black body radiation.

17. Derive the equation for isothermal Elasticity.

18. State Wiedemann-Franz law.

19. Show that the slope of an adiabatic is γ times the slope of the isothermal.

20. Show that entropy remains constant in a reversible process.

21. Explain the concept of entropy and disorder.

22. Define the term efficiency of a heat engine.

<div align="right">(8 × 2 = 16 Marks)</div>

PART – C

Answer **any six** questions. Each question carries **4 marks.**

23. A bar of length 30 cm and uniform area of cross section 5 cm² consists of two halves AB of copper and BC of iron welded together at B. The end A is maintained at 200°C and the end C at 0°C. The side's of the bar are thermally insulate. Find the rate of flow of heat along the bar when the steady state is reached. Thermal conductivity of copper is 0.9 and thermal conductivity of iron is 0.12 CGS units.

24. Air at N.T. P is compresses adiabatically to half its volume. Calculate the change in its temperature.

25. A card is drawn from a well shuffled pack of 52 cards. Calculate the probability for this card to be either a king or a queen. There are 4 kings and 4 queens in a set of cards.

26. One gram molecule of a gas expands isothermally to four times of its volume. Calculate the change in its entropy in terms of the gas constant.

27. Calculate the work done when a gram molecule of an ideal gas expands isothermally at 50°C to double its original volume. Given R = 8.3 J/deg mole.

28. Calculate the surface temperature of sun and moon if the wavelength corresponding of the maximum intensity of radiations from them are 4753Å and 14 μ_m respectively. (Wien's constant b = .2898 centimeter kelvin).

29. The opposite faces of a meal plate of 0.2 cm thickness are at a difference of temperature of 100°C and the area of the plate is 200 sq.cm. Find the quantity of heat that will flow through the plate in one minute if, K = 0.2 CGS units.

30. Calculate the work done when one litre of a mono atomic perfect gas at N.T.P is compressed adiabatically to half its volume, $\gamma = 1.67$.

31. Calculate the change in entropy when 10 kg of water at 150°C is converted into steam at the same temperature. Given Latent heat of steam = 540 cal/gram.

(6 × 4 = 24 Marks)

PART – D

Answer **any two** questions. Each question carries **15** marks.

32. Describe with necessary theory, the construction and working of a diesel engine. Deduce the efficiency of a diesel engine in terms of the temperature between which it works.

33. State and derive Maxwell-Boltzmann distribution law and hence show that

$$n(E)dE = \frac{2N}{\sqrt{\pi}}\left(\frac{1}{KT}\right)^{3/2} E^{1/2} e^{-E/KT}.dE$$. When $n(E)dE$ is the number of molecules with energies E and $E + dE$.

34. With necessary theory explain how thermal conductivity of a bad conductor is determined by Lee's disc method.

35. (a) Discuss the distribution of energy in the spectrum of black body on the basis of the spectrum obtained in the experiment performed by Lummer and Pringsheim.

    (b) Deduce Wien's displacement law for the distribution of energy in black body spectrum.

(2 × 15 = 30 Marks)

Reg. No. : ....

Name : ....

Second Semester B.A./B.Sc./B.Com. Degree Examination, May 2019

First Degree Programme Under CBCSS

Language Course IV (ENGLISH II)

(Common for B.A./B.Sc. (EN 1212.1), B.Com. (EN 1211.2) & Career Related 2 (a) (EN 1211.3))

MODERN ENGLISH GRAMMAR AND USAGE

(2013 Admission Onwards)

Time : 3 Hours

Max. Marks : 80

I.   Answer **all** questions :

1.   Most children below ten play happily with colourful toys. (Identify the predicate)

2.   She likes sweets. (change into negative)

3.   Solomon was the wisest of all men. (add a question tag)

4.   I haven't done ——————— work so far. (use 'some' or 'any')

5.   The Base-ball is a very popular game in America. (correct the sentence)

6.   The train left the platform before I reached. (correct the sentence)

7.   Spain is ——————— European country (use 'a' or 'an')

8.   To solve this problem is difficult (begin with 'it')

9. Many a passenger ——————— lost his luggage. (use the correct form ——————— has/have)

10. The former part of the film is more interesting than the ———————
(later/latter)

(10 × 1 = 10 Marks)

II. Answer **any eight** of the following.

11. Convert the following into a complex sentence.

(a) His absence is due to illness.

(b) Seeing the policeman, the thief ran away.

12. Change into simple sentence.

(a) It is a matter that deserves attention.

(b) Dogs that bark do not always bite.

13. Change into affirmative :

(a) How terrible it is !

(b) What a fuss you make !

14. Correct the following sentences :

(a) He said to me to complete the work.

(b) The leopard attacked on six villagers.

15. Change the voice :

(a) They made her apologize.

(b) They found him guilty.

16. Frame a question to get the underlined word as answer :

    (a) He goes to <u>church</u> everyday.

    (b) I met <u>her</u> in the afternoon.

17. Change into comparative :

    (a) The elephant is the strongest animal on land.

    (b) Kovalam is the most beautiful beach.

18. Add a suitable question tag :

    (a) Honesty is the best policy —————?

    (b) They didnot lose their way, —————?

19. Write the 's' genitive version of the following :

    (a) Visit of the President.

    (b) The house of Mr. John.

20. Rearrange the jumbled words into meaningful sentence :

    (a) was/dancer/painter/the/once/a

    (b) jumped/bus/he/off/the.

21. Replace the underlined words with an adverb.

    (a) She can speak French <u>in a fluent manner</u>.

    (b) He finished the work <u>in a quick fashion</u>.

22. Use the appropriate articles :

    (a) The car is going at fifty miles ————— hour.

    (b) He reads ————— Bible everyday.

(8 × 2 = 16 Marks)

III. Answer any **six** of the following as directed.

23. Complete the following sentences using the correct form of the tenses :

A : Hello Sir, what can I – (do) for you?

B : I ——————— (look) for a good bicycle.

A : There are many new models. Have a ——————— (look)

B : I want one which ——————— (give) a smooth run.

A : Then take this one with a low cost.

B : How much will it cost?

A : Only 2000 Rupees.

B : All right. I ——————— (come) in the evening to purchase it.

A : Thank you sir.

24. Use the correct forms of the words given in brackets.

I was (read) a book when I (hear) a knock on the door. (see) nothing. I (go) on reading the book.

25. Rewrite the following sentences using the correct prepositions :

(a) The meeting started ——————— 5 p.m.

(b) He goes to office ——————— Bus.

(c) He beat me ——————— a stick.

(d) Here comes the bus that you are waiting ———————

(e) India became a Republic ——————— 1950.

(f) Gandhiji was born ——————— 2nd October 1869.

(g) It rained ——————— morning till evening yesterday.

(h) I want your reply ——————— a week.

26. Rewrite the following conversation in indirect speech :

"I am acquainted with your name" , said Kirilov courteously.

"I have seen it in print, even in the soviet union".

"I feel flattered", said Emily.

27. Correct the following sentences :
    (a) The letter reached us only very lately.
    (b) They were awaiting for our reply.
    (c) He drove very fastly.
    (d) The school principal decided to give him capital punishment.

28. Complete the following sentences using suitable modals :

    (a) You —————— not enter the class without apologizing to the principal (shall/may/would)

    (b) When I was living with my grandma she —————— tell stories and fables at bed time. (shall/would/might)

    (c) To become a good driver I —————— practice every (should/might/could)

    (d) Our team —————— win, if they tried. (can/could/would)

29. Rewrite the following passage underlining the determinatives, quantifiers and possessives in it :

    (a) Have you got the book?
    (b) The teacher liked her essay.
    (c) This research requires expensive equipment.
    (d) There was no debate and the senate passed all the bills.

30. Fill up using articles :

    (a) —————— large number of cars were parked outside —————— school.

    (b) —————— police arrested —————— one-eyed man.

    (c) There was —————— ugly scar on —————— face of —————— prisoner.

    (d) We always admire —————— brave.

31. Rewrite the following providing the correct punctuations :

trains buses autorickshaws cars are not running due to the bandh.

(6 × 4 = 24 Marks)

IV. Answer any **two** of the following :

32. Expand the proverb "united we stand ! Divided we fall !" .

(Answer in about two or three pages)

33. Write a short essay on "India : My country".

(Answer in about two to three pages)

34. Write a precis of the following passage :

There is a false idea that a man must live up to his position. It is said that one's house, furniture, and dress should inform the world of one's rank. This idea is foolish. Throw it aside. Find out what you want, and spend money on that; find out what you do not care about, and spend nothing on such things. Find out by practical tests what you really want and enjoy. A man who has not experienced ups and downs, a man who has not been forced to live more cheaply than in former times, has still his education to begin. Let the experiment be made. He will find to his surprise that he has been eating more than was necessary; that the cheap lodging, the rough clothes, the plain food, give him as much pleasure as the costly things that he had previously enjoyed.

The happy man is he who lives wholly in himself. He does what he wishes and not what is thought proper by others. He buys what he wants for himself and not what others expect him to buy. He works at what he believes he can do well and not what will bring him money or favour. However poor he may be, he is always open handed to his friends. If he has more now, he does not care to save, for he knows he can do with less. He shares his sovereign or shilling with a friend. Where do beggars usually go? Not to the great houses where people are rolling in wealth, but to the doors of poor men who have scarcely enough to meet their own needs. (277 words)

35. Arrange the given sentences in the proper order :

(Hints : First sentence and the last sentence are in the correct order. The rest of the sentences have to be rearranged so as to give logical sense to the whole passage).

Generally, we think that 'education' refers to the study of books and what we learn in the class room visiting new places can be an enriching and educative experience. But education is not restricted to that when we hear or read that Banglore is a beautiful place, we can form only a rough picture of the city in a broad sense, education is what we gain by seeing, reading, thinking and acting. However, it is only by visiting the city that we can develop a clear understanding of its culture, language, and history. In this sense, travel is an important part of education. Travel, therefore, adds to our experience and is certainly a part of education.

(2 × 15 = 30 Marks)

Reg. No. : ....

Name : ....

Second Semester B.A./B.Sc. Degree Examination, May 2019

First Degree Programme Under CBCSS

English Language

Language Course III

EN 1211.1 : ENVIRONMENTAL STUDIES

(2015 Admission Onwards)

Time : 3 Hours

Max. Marks : 80

I   **Answer all the questions, each in a word or sentence**

1.   What are the four dynamic constituents of environment?

2.   Name the two broad categories of natural resources?

3.   What is the function of the ozone layer?

4.   What is the theme of "The Poplar-Field"?

5.   Define the term ecosystem.

6.   What is chemosynthesis?

7.   Expand WHO.

8.   When was the wildlife protection act passed?

9.   Expand EIA.

10.   What is the objective of deep ecology?

(10 × 1 = 10 Marks)

II   Answer any eight questions, each in a short paragraph not exceeding fifty words

11. Explain the term sustainable development.

12. What does Chief Seattle say about rivers?

13. Explain the role of the youth in the conservation of environment.

14. Examine the concept of ecocriticism.

15. Write a note on vermicomposting.

16. Give a brief description about biodiversity hotspots.

17. Explain watershed management.

18. Describe the efforts of United Nations to protect human rights.

19. Write a short note on rainwater harvesting.

20. Explain the various factors that have led to the rapid growth in human population.

21. Elaborate on the concept of anthropocentrism.

22. Describe the bleak nature in Thomas Hardy's "The Darkling Thrush."

(8 × 2 = 16 Marks)

III Answer any six questions, each in a short paragraph not exceeding hundred words

23. Explain the critical environmental issues that affect Kerala.

24. How does Chief Seattle assert that man is an integral part of human nature?

25. Describe the various spheres of earth?

26. Discuss the problem of soil pollution.

27. Write a note on the environmental significance of Western Ghats.

28. Explain the importance of preserving biodiversity.

29. Write a note on the Environmental Protection Act.

30. Discuss the family welfare programmes initiated by the Government of India.

31. Explain the major water conservation strategies.

(6 × 4 = 24 Marks)

IV Answer any two questions in three hundred words

32. Describe the significance and multidisciplinary nature of environmental studies.

33. Analyse Issac Asimov's views on human population and environment.

34. Examine Shashi Tharoor's opinion regarding the ecological consciousness of Indians

35. Discuss the causes and effects of air pollution and the effective strategies that can be adopted to control pollution.

(2 × 15 = 30 Marks)

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G – 2291