GOVT. POLYTECHNIC, AMRAVATI.

(An Autonomous Institute of Govt. of Maharashtra)

Write Identity Code

TERM END EXAMINATION
SUMMER - 2019

PROGRAMME: DIPLOMA IN CE,ME,EE,EC, IF,CM,PP ENGINEERING

COURSE CODE & ITS TITLE : CC1401 ENGLISH

Time Allowed : 03 Hrs **Marks: 70**

Instructions:

1. Write your Identity Code Number on question paper.
2. All questions are compulsory.
3. Illustrate your answers with neat sketches wherever necessary.
4. Use of non-programmable calculator is permissible.
5. Figures to the right indicate full marks.
6. Assume suitable additional data, - if necessary – and state the assumptions made.
7. Each sub-question in a question carries equal marks unless otherwise specified.

Marks

Q.1.A) Attempt any **THREE** **06**

a) Make words by using following suffixes.

(1) _____tion (ii) _____ity

b) State the antonyms of the following.

(1) guilty (ii) confident

c) Write the meaning of the following words and use them in sentence. (Any One)

(i) Industrial---Industrious .

(ii)Disease-decease.

d)Give one word substitution for the following.

(i) Rule by one person who holds unlimited power.

(ii)The branch of biology dealing with plant life.

Q.2. Attempt the following

a) Change the tense **(any Two)** 02

(i)She did not complete her work (make it simple future tense)

(ii)Ram was watching birds (make it past perfect tense)

(iii) He plays football (make it present continuous tense)

b) Insert proper Conjunctions **(any Two)** 02

(i) The boss had left office ____ I could meet him.

(ii) __Men__ women were elected in the committee.

(iii) He is weak ___ he cannot play outdoor games.

c) Fill in the blanks with appropriate prepositions.(**any Two**) 02

(i) A man is know _____ the company he keeps.

(ii) The machine has not been in use____2000.

(iii) She is afraid ___ going out alone.

d) Change the voice **(any Two)** 02

(i) The guard refused the bribe.

(ii) A road show was being performed by them.

(iii) Let this post be advertised.

e) Rewrite the following sentences into indirect speech (**any Two**) 04

(i) She said, "How nice of you!"

(ii) The teacher said to the student," Have you purchased a computer?"

(iii) Neeta said to me ," The sun rises in the East "

f) Identify the errors and correct the following sentences (**any Two**) 04

(i) An vice chancellor has agreed to promote him to post of an reader.

(ii) As soon as Mahesh hear the news he write to me.

(iii) The manager visit Australia recently.

Q.3.A. Attempt any **TWO.** **06**

(i) Name the academy started by Arunima Sinha and its motto.

(ii) State the family condition of shiva kumar during his childhood and school life.

(iii)Define the term : Electronic waste.

Q.3.B. Attempt any **THREE.** **12**

(i) Describe the preparation stages of Ronaldo, the football legend.

(ii) Explain the steps that students can take to avoid e-waste pollution..

(iii)Describe the accident of Arunima sinha.

(iv)Summarize the success story of Mr.Lal.

Q.4. Attempt any **TWO..** **06**

a) Draft a speech for introducing the guest speaker,Dr.Sinha,an expert on presentation skills for a seminar organised for the third year students in your institute .

b) Prepare a vote of thanks for the Annual Sports Day held in your institute.

c) Draft a speech for farewell function of Mr.Dawe, Manager of Production Department of Apex Company, Mumbai ,who is retiring this month end.

Q.5. Attempt any **TWO .** **12**

a) Develop a dialogue between librarian and student about losing the borrowed book. (10 -15 dialogues)

b) Develop a dialogue between two friends regarding importance of reading . (10 -15 dialogues)

c) Write a paragraph on 'Effects of water pollution '(75 words)

Q.6. Read the following passage and answer the questions given below :

We left Dehradun early in the morning and stopped by for breakfast at Mussouri . From Mussouri the picturesque road heads north to Yamuna bridge, then to Barkot,where one road branches to Gongotri.The road winds along the Yamuna river through luxurious dense green vegetation to Hanumanchatti the end of motorable road the remaining journey has to be undertaken on foot or pony. Yamunotri is only 13 km from Hanumanchatti .But it is better to proceed another 6 km and have the night halt at Janakibaichatti. The journey to Yamunotri is simply breathtaking.High snowcovered peaks all around , glaciers, streams and waterfalls vibrant green foliage and the pristine air are a sheer delight to tired city lungs. Yamunotri, 3322 metres above sea level, is located on the western bank of the great peak of Banderpunch (monkey's tail)Which is 6315 metres high.

a) State the reason of taking halt at Mussouri. 02

b) Mention the reason to undertake remaining journey to Yamunotri on foot or pony. 02

c) Explain why the journey to Yamunotri is simply breathtaking. 02

d) Describe the location of Yamunotri. 02

e) Give the meaning of the following words and use them in your own sentences.**(any Two)** 04

(i) Picturesque (ii) dense (iii) Vibrant (iv) night halt

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SUMMER - 2019

PROGRAMME:DIPLOMA IN CE/EC/EE/ME/PP/CM/IF ENGINEERING

COURSE CODE & ITS TITLE : CC1404 BASIC MATHEMATICS

Time Allowed : 03 Hrs **Marks: 70**

Instructions:
1. Write your Identity Code Number on question paper.
2. All questions are compulsory.
3. Illustrate your answers with neat sketches wherever necessary.
4. Use of non-programmable calculator is permissible.
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7. Each sub-question in a question carries equal marks unless otherwise specified.

Marks

Q.1. a) Attempt any **TWO** **04**

i) Show that $\log\left(x+\sqrt{x^2+1}\right)+\log\left(\sqrt{x^2+1}-x\right)=0$

ii) Solve ; $\dfrac{4\log 3.\log x}{\log 9}=\log 27$

iii)Find x if $\log_2(x+5)+\log_2(x-2)=3$

b) Attempt any **TWO** **06**

i) Resolve into partial fractions ; $\dfrac{x-5}{x(x+3)(x-2)}$

ii) Resolve into partial fractions ; $\dfrac{3x+2}{(x+1)(x^2-2)}$

iii) Resolve into partial fractions ; $\dfrac{x^4}{x^3+1}$

Q.2. Attempt any **THREE** **12**

a) Find k if the points (2,3), (-1,k), (5,8) are collinear.

b) Solve using Cramer's rule $2x+3y=5$; $y-3z=-2$; $z+3x=4$

c) Find A^2 if $A=\begin{bmatrix}2 & -2 & -4\\ -1 & 3 & 4\\ 1 & -2 & -3\end{bmatrix}$

d) Solve the equations by matrix method

$X+3y+2z=6$; $3x-2y+5z=5$; $2x-3y+6z=7$

Q.3. a) Find the value of $\frac{3\sin\alpha - 4\sin^3\alpha}{1+2\cos^2\alpha}$ if $\cot\alpha = \sqrt{3}$ and α lies in III quadrant **02**

b) Attempt any **TWO** **06**

i) Prove that, $\frac{\cos 21° - \sin 21°}{\cos 21° + \sin 21°} = \cot 66°$

ii) Prove that, $\cos^{-1}\frac{-4}{5} + \tan^{-1}\frac{3}{5} = \tan^{-1}\frac{27}{11}$; for principal values.

iii) Prove that, $\cos A + \cos B - \cos C = -1 + 4\cos\frac{A}{2}\cos\frac{B}{2}\sin\frac{C}{2}$ for Δ ABC.

c) Attempt any **TWO.** **08**

i) Prove that, $a^2 \sin(B-C) = (b^2 - c^2)\sin A$, for Δ ABC.

ii) Find the area of triangle whose sides are a = 53 cm; b = 40 cm and c = 72 cm also find $\sin\left(\frac{A}{2}\right)$

iii) Solve the Δ ABC if a = 4, b = 5, and $\angle B = 30°$

Q.4. a) Attempt any **ONE.** **04**

i) Find the equation of line through the point of intersection of lines x-2y – 5 = 0 ; x + 3y -10 = 0 and perpendicular to 3x + 4y = 0.

ii) Find the distance between the lines 3x+4y-7 = 0 ; 6x + 8y – 5 = 0

b) Attempt any **TWO.** **06**

i) Find the angle between the lines y = 5x + 6 ; y = x

ii) Find the equation of the line whose x – intercept is double that of y intercept and which passes through (4, 1)

iii) Find the value of k if the length of perpendicular from (5,4) to the line 2x + y + k = 0 is $4\sqrt{5}$

Q.5. Attempt any **THREE.** **12**

a) Find the volume and the surface of a box whose sides are 10 cm, 8 cm, 6 cm.

b) Find the surface area of a sphere if a solid right circular cylinder with radius 6 cm and height 8 cm has the same volume as a sphere.

c) Find the number of bolls made if a solid metallic cylinder of radius 9 cm and height 16/3 cm is melted and a spherical balls of diameter 6 cm are made out of it ?

d) Find the cost of canvas at Rs. 15 per square meter if a tent of canvas is in the form of a cone resting on a cylinder 2 m high and 6 m in diameter and the vertex of the cone is 6 m above the ground

Q.6. a)Attempt any **ONE.** **02**

i) Calculate the mean deviation from the mean for the data :

Marks	3	4	5	6	7	8
No.of students	1	3	7	5	2	2

ii) Calculate median for the data ;

Class	0-20	20-40	40-60	60-80	80-100
frequency	20	130	220	70	60

b) Attempt any **TWO.** **08**

i) Calculate the standard deviation for the data :

Age in years	10-19	20-29	30-39	40-49	50-59	60-69	70-79
No.of persons	3	61	223	137	53	19	4

ii) Which of the two sets is more consistent ?

	Set – I	Set - II
$\bar{x}$	82.5	98.75
σ (S.D)	7.3	8.35

Compare their coefficient of variance.

iii) Calculate the variance and coefficient of variance for the data :

Expenditure below the Rs.	10	20	30	40	50
No. of persons	14	27	54	75	90

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