SVLNS GOVT.DEGREE COLLEGE :: BHEEMUNIPATNAM

MID-EXAMINATION ENGLISH MAR-2022

1.Answer any one of the following questions: 1X5= 5M

a. what are the differences between Hearing and Listening?

b. What are the types of Listening skills?

c. What are the barriers to Listening?

2.Answer any five of the following questions: 5x2=10M

a. List out the barriers to listening.

b. what are the steps involved in listening?

c. What is the importance of listening?

d. What is appreciative listening?

e. What is empathetic listening?

f. What is comprehensive listening?

g. What is critical listening?

3. Fill in the blanks with suitable verb forms: 10X1/2=5M

a. Padmini _____ (watch) TV serials regularly

b. Don't disturb! He _____ (study)

c. My neighbours _____ (vacate) the house recently

d. They_____ (play) football for one hour

e. We_____ (paint) the house last week

f. The car broke down while we _____ (return) home

g. The fire brigade came after the houses _____ (gutt)

h. I _____ (present) a paper in the seminar next week.

I. If you work hard you_____ (pass) the exam

J. If she had asked me I _____ (help) her.

SVLNS GOVT.DEGREE COLLEGE :: BHEEMUNIPATNAM

II MID-EXAMINATION ENGLISH MAR-2022

1.Answer any one of the following questions: 1X5= 5M

a. Explain the importance of positive attitude. How can we develop it?

b. How do you demonstrate good interpersonal skills?

c. Write a note on Emotional Intelligence.

2.Answer any five of the following questions: 5x2=10M

a. What is Telephone Etiquette?

b. Describe the qualities needed to develop emotional intelligence?

c. Describe SWOT?

d. What is Attitude?

e. Describe Self Awareness?

f. Write the advantages of Interpersonal skills?

g. Write about relation Management skills?

3.Transform the following sentences as directed   5X1=5M

a.	The hunter killed the lion	(Change into passive voice)
b.	Ravi is a student	(Add a question tag)
c.	Rishika is as tall as Rencika	(Change into Comparative Degree)
d.	He drinks tea	(Change into passive voice)
e.	I am a doctor	(Add a question tag)

Max. Marks: 20

Section-A

I Answer any ONE of the following : $1 \times 5 = 5M.$

1. Solve $(x^2+1)\frac{dy}{dx} + 4xy = \frac{1}{x^2+1}$

2. Solve $p^2 + 2py \cot x = y^2$

3. Solve $(D^2 - 5D + 6)y = x e^{4x}$

Section-B

II Answer the following each question carries 2 marks

1. Solve $x\,dy - y\,dx = xy^2 dx$ $5 \times 2 = 10M$

2. If $M(x,y)dx + N(x,y)dy = 0$ is a homogeneous differential equation and $Mx + Ny \neq 0$ then what is the integrating factor?

3. Solve $(x+y+1)\frac{dy}{dx} = 1$

4. Define Bernoulli's equation

5. Solve $(y-xp)(p-1) = p$

Section-C

III Answer the following each question carries ½ marks

$10 \times \frac{1}{2} = 5M.$

1. Degree of $\left[1 + \left(\frac{dy}{dx}\right)^2\right]^3 = r^2\left(\frac{d^2y}{dx^2}\right)^2$ is ____

2. The general solution of $\frac{dy}{dx} = e^{x+y}$ is ____

3. Integrating factor of $\frac{du}{da} - \frac{u}{x} = -\frac{1}{x^2}$ is ____

①

4. The solution of $y\,dx - x\,dy = 3x^2 e^{x^3} y^2\,dx$ is _____

5. C.F. of $(D^4 + 2n^2 D^2 + n^4)y = \cos nx$ is _____

6. The order of $x^3 \dfrac{d^3 y}{dx^3} + 2x^2 \dfrac{d^2 y}{dx^2} - 3y = x$ is _____

a) 2   b) 3   c) 1

7. The differential equation whose solution is
$y = a\cos(x+2)$ is

a) $y_1 + y\cot(x+2) = 0$ b) $y_1 + y\tan(x+2) = 0$

c) $y_1 - y\tan(x+2) = 0$

8. The general solution of $\dfrac{y\,dx - x\,dy}{y^2} = 0$ is

a) $xy = c$ b) $x = cy$ c) $y = cx$

9. Which of the following is exact?

a) $2xy\,dx + (y^2 + x^2)\,dy = 0$ b) $(y\sin 2x)\,dx = (y^2 + \cos^2 x)\,dy = $

c) $(a^2 - 2xy - y^2)\,dx - (x-y)^2\,dy = 0$

10) $\dfrac{1}{D^2} e^{4x} = $

a) $\dfrac{e^{4x}}{4}$ b) $\dfrac{e^{4x}}{16}$ c) e^{4x}

Knox

(K.VIVDYASAGAR)

(2)

Section-A

I Answer any ONE of the following: $1 \times 5 = 5M$

1) Solve $\dfrac{d^2y}{dx^2} - \dfrac{dy}{dx} - 2y = \sin 2x$

2) Solve $(D^2 - 4D + 4)y = 8x^2 e^{2x} \sin 2x$

3) Solve $(D^2 + 1)y = \cosec x$ by the method of variation of parameters

Section-B

II. Answer the following each question carries 2 marks
$$5 \times 2 = 10M$$

1) Find the particular values of a) $\dfrac{1}{D} x^2$

   b) $\dfrac{1}{D^2} e^{4x}$

2) Find the complementary function of $(D^2 - 5D + 6)y = e^{4x}$

3) Solve $\dfrac{d^3y}{dx^3} + a^2 \dfrac{dy}{dx} = \sin ax$

4) What is the value of A for $(D^2 - 2D)y = e^x \sin x$ by the method of variation of parameters.

5) Define Cauchy - Euler Equation.

— K.N. 2
(K.N. VIDYASAGAR)

③

S.V. L.N.S. Govt. Degree College, Bheemunipatnam

Semester-II, Mid-I Examination for 2021-2022

Subject: Mathematics (Solid Geometry)

Time: 1 hr   Max. marks: 20M

Section-A

I. Answer any ONE of the following $1 \times 5 = 5M$

1) Find the equation of the plane through $(4, 4, 0)$ and perpendicular to the planes $x + 2y + 2z = 5$ and $3x + 3y + 2z - 8 = 0$

2) Find the image of the point $(2, -1, 3)$ in the plane $3x - 2y + z = 9$

3) Find the equations of the line through the point $(1, 1, 1)$ and intersecting the lines
$2x - y - z - 2 = 0 = x + y + 2 - 1; \quad x - y - z - 3 = 0 = 2x + 4y - z - 4$

Section-B

II. Answer the following: $5 \times 2 = 10M$

1. Find the angle between the planes $2x - 3y - 6z = 6$ and $6x + 3y - 2z = 18$

2. Find the equation to the plane through the line of intersection of $x - y + 3z + 5 = 0$ and $2x + y - 2z + 6 = 0$ and passing through $(-3, 1, 1)$

3. Find the distance of the point $(1, -2, 3)$ from the plane $x - y + z = 5$ measured parallel to the line whose d.c's are proportional to $2, 3, -6$

4. Define skew lines

5. Find k so that the lines
$\frac{x+1}{-3} = \frac{y+2}{2k} = \frac{z-3}{2}$ and $\frac{x-1}{3k} = \frac{y+5}{1} = \frac{z+6}{7}$ are perpendicular.

(4)

III - Answer the following $10 \times \frac{1}{2} = 5M$.

1. If l, m, n are d.cs of a line then $l^2 + m^2 + n^2 = $ ____

2. If Distance between parallel planes $ax + by + cz + d_1 = 0$, $ax + by + cz + d_2 = 0$ is $\dfrac{|d_1 - d_2|}{\sqrt{a^2 + b^2 + c^2}}$, $d_1 < 0, d_2 < 0$

then the distance between parallel planes

$2x + 3y + 4z + 6 = 0$, $2x + 3y + 4z + 9 = 0$ is ____

3 The angle between the planes $2x - y + z = 0$, $x + y + 2z = 7$

is ____

4 Symmetric form of a line is ____

5. The equations of the line joining $(-2, 1, 3)$ and $(1, 1, 4)$

is ____

6) The distance between parallel planes

$2x - 2y + z + 3 = 0$, $4x - 4y + 2z + 5 = 0$ is ____

a) $\frac{2}{6}$ b) $\frac{1}{3}$ c) $\frac{1}{6}$

7) Find the value of k for which the lines

$\dfrac{x-1}{-3} = \dfrac{y-2}{2k} = \dfrac{z-3}{2}$ and $\dfrac{x-1}{3k} = \dfrac{y-5}{1} = \dfrac{z-6}{-5}$

a) $\frac{10}{7}$ b) $-\frac{10}{7}$ c) $\frac{7}{10}$

8) Any two non-parallel and non intersecting lines

are called ____

a) parallel lines   b) coplanar   c) skew lines

9) The d.rs of a normal to the plane $2x - 2y + z = 5$

a) $2, -2, 1$ b) $2, 4, 5$ c) $2, -4, 5$

10) The constant k so that the planes $x - 2y + kz = 0$ and

$2x + 5y - z = 0$ are at right angles.

Section A

1. Answer any ONE of the following $1 \times 5 = 5 M$

1) A plane passes through a fixed point (a, b, c) and intersects the axes in A, B, C. Show that the Centre of the Sphere $OABC$ lies on $\frac{a}{x} + \frac{b}{y} + \frac{c}{z} = 2$

2) Find the limiting points of the Coaxal System defined by Spheres
$$x^2 + y^2 + z^2 + 4x - 2y + 2z + 6 = 0 \quad \text{and}$$
$$x^2 + y^2 + z^2 + 2x - 4y - 2z + 6 = 0$$

3) Find the enveloping cone of the Sphere
$$x^2 + y^2 + z^2 + 2x - 2y - 2 = 0 \quad \text{with} \quad \text{its vertex at}$$
$(1, 1, 1)$

Section-B

II Answer the following $5 \times 2 = 10 M$

1. Define Radical plane

2 Find the length of the tangent from the point $(3, 1, -1)$ to the Spheres $x^2 + y^2 + z^2 - 3x + 5y + 7 = 0$

3. Find t, if the radius of the Sphere $x^2 + y^2 + z^2 + 6x - 8y - t = 0$ is 6

4. Define Enveloping Cone

5. show that $x = -y = -z$ is a generator of the Cone $5yz + 8zx - 3xy = 0$

Section A

Answer any two of the following : $2 \times 10 = 20$ M

1) prove that a finite Semi-group $(G, \cdot)$ satisfying the cancellation laws is a group

2) If H and K are two subgroups of a group G then prove that HK is a subgroup of G iff HK = KH

3) State and prove Lagranges theorem for finite groups.

C.B. Seethamnaidu

⑦

S.V.L.N.S. Govt. Degree College, Bheemunipatnam

Semester-III, Mid-II Examination for 2021-2022

Subject : Mathematics (Abstract algebra)

Time : 1 hr

Max. Marks : 20

Answer any two of the following $2 \times 10 = 20$ M

1) If G is a group and H is a subgroup of index 2 in G then prove that H is a normal subgroup of G

2) State and prove fundamental theorem of Homomorphism

3) State and prove Cayley's theorem for finite groups

(B. Seethannaidy)

⑧

S.V.L.N.S. Govt Degree College, Bheemunipatnam

Semester-IV, Mid-I Examination for 2021-2022

Subject : Mathematics (Real Analysis)

Time : 1 hr   Max. Marks : 20

Answer   any two of the following : $2 \times 10 = 20M$

1) State and prove Bolzano-Weierstrass theorem

2) Prove that the sequence $\{S_n\}$ defined by

$$S_n = 1 + \frac{1}{1!} + \frac{1}{2!} + \cdots + \frac{1}{n!}$$ is convergent

3) State and prove D'Alembert's ratio test

(B. Seethannaidu)

S.V.L.N.S. Govt. Degree College, Bheemunipatnam

Semester-IV, Mid-II Examination

Subject : Mathematics (Real Analysis)

Time: 1 hr   Max. Marks : 20 M

Answer any two of the following $2 \times 10 = 20M$

1) Examine the Continuity of $f(x) = |x| + |x-1|$ at $x = 0, 1$

2) State and prove Lagrange's Mean Value theorem

3) State and prove Fundamental theorem of integral calculus

(B. Sethannaidu)

SECTION A

Answer any one of the following essay questions (1X5 =5M)

1. Explain the motion of a rocket and deduce expression for its final velocity?
2. State Kepler's laws of planetary motion and verify first law?
3. Deduce Lorentz transformation equations?

SECTION B

Answer any five of the following short answer questions (5X2 =10M)

1. Define impact parameter and scattering cross section?
2. Explain precession of equinoxes?
3. Show that central force is conservative force?
4. Write a short note on geo stationary satellite?
5. Define central force and write its characteristics?
6. Write and explain postulates of special theory of relativity?
7. What is length contraction and obtain expression for it?

SECTION C

Answer all following objective questions (10X1/2 =5M)

1. Curl of a conservative force is always……………………………
2. Kepler's first law is also known as………………………
3. The path of a planet around sun is……………………
4. 1amu is equivalent to ……………………..MeV
5. The rest mass of a particle is 10 grams, what is its mass when it is moving with a velocity of light C ……………………………………….
6. Moving objects look shorter in length (thinner) than stationary objects, this is due to …………………………………………………
7. The square of time period of a planet is proportional to……………………….

    (a) Cube of length of semi major axis (b) Square of semi minor axis

    (c) Square of major axis (d) None of the above

8. The angular momentum of a body under central force is……………….

    (a) Zero (b) Always constant (c) Infinite (d) All the above

9. The special theory of relativity treat problems involving………………..

    (a) Inertial frames (b) Non inertial frames

    (b) (c) All reference frames (d) None of the above

10. Length contraction happens only ………………….

    (a) Along the direction of motion (b) Perpendicular to the direction of motion

    (C) Never happens (d) All are correct

****** All the best ******