ENGLSH, Paper - I

Time: 3 Hours ***Max. Marks: 100***

SECTION - A

I. *Annotate **ANY TWO** of the following in 10 - 15 lines each:* **2×4 = 8**

a) With the six hats, instead of confrontation there is supportive scrutiny of an issue, which is useful where there are fierce arguments, bickering or obstinacy.

b) "But you must start somewhere; otherwise no woman will ever be able to work in your factories."

c) If you want to make us stronger, attack and we unite.

d) Because I didn't get my money's worth, that's why!

II. *Annotate **ANY TWO** of the following in 10-15 lines each* **2×4 = 8**

a) "At Kilve there was no weather- cock,
And that's the reason why."

b) Holding a candelabrum before an idol,
Just once a year
Is desecrating it.

c) It rots the sense in the head!
It kills imagination dead!
It clogs and clutters up the mind!

d) He is your field which you sow with love and reap with thanksgiving and he is your board and your fireside.

III. *Answer **ANY TWO** of the following in 10-15 lines each.* **2×4 = 8**

a) The invention of robots will not lead to the loss of jobs. How does the writer explain this?

b) Explain the difference between lateral and logical thinking.

c) Why did Sudha Murty not feel nervous at the interview? Explain.

d) Explain the relationship between bowling and wicket-keeping with examples.

IV. *Answer **ANY TWO** of the following in 10-15 lines each.* **2×4 = 8**

a) List all the qualities a true friend should have, according to Kahlil Gibran.

b) How does television kill one's imagination?

c) The poem 'A Spider and a Fly' is a celebration of beauty rather than utility. Justify your answer.

d) How does the poet contrast the celebration of Mother's Day in western countries and in our country?

V. *Answer **ANY ONE** of the following in about 25-30 lines.* **1×8 = 8**

a) Describe how the stranger/guest slowly became obsessed with the face on the wall and how his life was affected.

b) Is the nightingale's sacrifice in vain? Give reasons to support your answer.

c) How was Bepin Babu tricked by Chunilal?

SECTION-B

VI. *Read the following passage carefully and answer the questions that follow:* **5×1 = 5**

One day, a guru foresaw in a flash of vision that he would die shortly and what he would be in his next life. So, he called his favourite disciple and asked him what he would do for his guru in return for all he had received. The disciple said, he would do whatever his guru asked him to do. Having received this promise, the guru said, "Then this is what I'd like you to do for me. I've just learned that when I die, which will be very soon, I'm going to be reborn as a pig. Do you see that sow eating garbage there in the yards? I'm going to be reborn as the fourth piglet of its next litter. You'll recognize me by a mark on my brow. When that sow has littered, find the fourth piglet with a mark on its brow and with one stroke of your knife, slaughter it. I'll then be released, from a pig's life. Will you do this for me?" The disciple was sad to hear all this, but he agreed to do as he had promised.

Soon after this conversation, the guru did die and the sow did have a litter of four little pigs. One day, the disciple sharpened his knife and picked out the fourth little pig, which did, indeed, have a mark on its brow. Just as he was about to bring down his knife to slit its throat, the little pig suddenly spoke, "stop"! Don't kill me. I want to live on as a pig. When I asked you to dispatch me, I didn't know what a pig's life would be like. It's great. Just let me go."

1. Why was the disciple shocked?
2. What did the guru foresee?
3. When the disciple was about to kill the pig, why did the guru say 'stop'?
4. Which of the following is not true in the context of the passage?
   (a) The disciple was sad to know that his guru was to die soon.
   (b) The guru took promise from his favourite disciple
   (c) There was a mark on the brow of the fourth piglet
   (d) The disciple changed his mind about killing his guru
5. Which of the following can be the best reason for the guru taking the prior promise from his disciple?
   (a) The favourite disciple otherwise does not obey.
   (b) Prior promise is needed for sharing divine things.
   (c) The guru did not have any confidence in his disciple
   (d) The act was such that in the absence of such a promise the disciple could have no chance of fulfilling his guru's desire.

VII. *Read the following passage carefully and answer the questions that follow:* **5×1 = 5**

When I think back about my childhood, many vivid memories spring to my mind. Some are pleasurable while some are painful. Regardless of the quality I attach to these memories, they constitute the early experiences of my life and they help to make me the person that I am today. The most vivid memory that I have is about the time I fell from a coconut tree. Though I fell from about three feet, I dislocated my elbow. I can still recall the process of falling and the immense pain and discomfort afterwards. I was about five at that time. That accident makes me extra careful whenever I climb a tree now. A repeat of a bad experience is definitely not welcome.

1. What do spring to the speaker's mind?
2. How is the speaker made a person what he is today?
3. What is the most vivid memory of the speaker?
4. What is that is not at all welcome according to the speaker?
5. Pick out the word from the passage which means 'huge or enormous'.

SECTION - C

Note: The answers to questions in this section should be written at ONE PLACE in the answer book separately. The entire section should be answered in one stretch and **not mixed with other sections.**

VIII. *Fill in the blanks with a, an or the.* **6×½ = 3**

1. _____ Mr. Sastry has come for you, Dad.
2. I returned ____ book you gave me yesterday.
3. Try to speak to _____European ahead of you.
4. I am a principal but my brother is ____ MBA.
5. He is _____ heir of the property besides the manager.
6. _____ Himalayas are to the north of India.

IX. *Fill in the blanks with suitable prepositions:* **6×½ = 3**

1. What is the time ____ your watch?
2. I have come ____ foot.
3. A new bridge was built _____ the Godavari.
4. She takes a lot of trouble ____ her work.
5. She hid ____ the cupboard and gave everyone a fright.
6. Our English friends have taken _____ Indian food quite quickly.

X. *Fill in the blanks with suitable forms of verbs given in the brackets:* **5×1 = 5**

1. English _____ (speak) globally.
2. I ____ (visit) Kashmir last summer.
3. The thief ____ (escape) before the police came.
4. He _____ (write) the book by next June.
5. It _____ (be) cloudy since morning.

XI. *Rewrite the sentences as directed:* **5×1 = 5**

a) The boy bought a blue shirt in/from the shop. (Rewrite starting with 'A blue shirt...)

b) Balu said, "I am reading a book now." (Change into indirect speech)

c) Few other leaders are as famous as Nehru. (Rewrite using 'more famous')

d) Sita is pretty. Sita is intelligent. (Combine the sentences using 'not only...but also')

e) Abdul can swim. (Add a question tag)

XII. *Rewrite the following sentences correcting the underlined part. The entire sentence must be written.* **5×1 = 5**

a) The old man <u>was died</u> yesterday.

b) The patient <u>died</u> before the doctor arrived.

c) The factory <u>is not belonging</u> to me.

d) Don't make <u>noise</u>.

e) I <u>am</u> absent yesterday.

XIII. *Supply the missing letters.* **6×½ = 3**

a) P_on_ _rs b) A_to_obi_e c) Ro_ _ e
d) h_m_n e) n_rv_us f) M_st_r

XIV. *Identify the silent consonants in the following words.* **6×½ = 3**

a) Aplomb b) Geyser c) Fatigue
d) rhyme e) scythe f) rhinoceros

XV. *Identify the parts of speech of the underlined words.* **6×½ = 3**

a) He went <u>home</u>.

b) He took ten rounds <u>around</u> the park.

c) He was there at <u>that</u> time.

d) <u>Procrastination</u> is the thief of time.

e) He took yours and rejected <u>mine</u>.

f) He <u>has</u> a lot of books in his library.

XVI. Match the words in column A with their meanings/ definitions in column B **6×½ = 3**

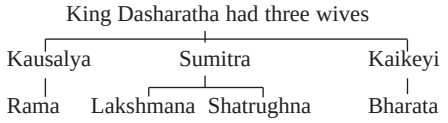
	Column A	**Column B**
1.	Laconic	a) unwilling to believe something
2.	Idealistic	b) varied or different
3.	Incredulously	c) having lofty or noble ideas
4.	Vigilant	d) unreasonable
5.	Diverse	e) using few words
6.	Absurd	f) observant
		g) averse
		h) having grace and beauty

XVII. *Convert the given information into a route map:* **5×1 = 5**

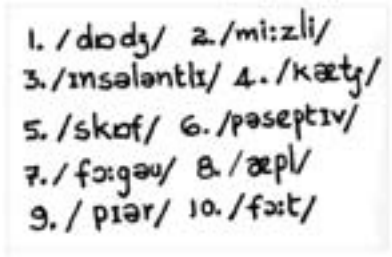
As you come out of the bus station take a left turn and go along the road till you come across a church. Take a left turn again and follow the road till you reach a crossroad. Take a right turn at the cross roads and after a hundred yards you will see a hospital. Right opposite it is Hotel Ramakrishna.

OR

Convert the given tree diagram into a passage.



XVIII. *Read the following transcription and write any five words in ordinary spelling. For example, /'praim/ prime* **5×1 = 5**



OR

Find the word that is different from the other words in the group with regard to the sound of the underlined letters.

1.	w<u>i</u>th	m<u>y</u>th	w<u>i</u>thout
2.	<u>ch</u>arisma	<u>ch</u>atch	wi<u>tch</u>
3.	<u>u</u>ncle	<u>u</u>rn	<u>u</u>nit
4.	bl<u>oo</u>d	f<u>oo</u>d	fl<u>oo</u>d
5.	h<u>oo</u>d	f<u>oo</u>l	c<u>oo</u>l

XIX. *Write the number of syllables for ANY SIX of the following words* **6×½ = 3**

1. congregate **2.** spurious **3.** bickering
4. scrutiny **5.** any **6.** slight
7. spleen **8.** view **9.** america
10. fuming.

XX. *Complete the following dialogue.* **4×1 = 4**

Usha: _____.
Teacher: Good morning, Usha. I have not seen _____.
Usha: Yes ma'am. I was _____
Teacher: And how are you _____?

ASNWERS (SECTION-C)

VIII: 1) a; 2) the; 3) the; 4) an; 5) an; 6) the.

IX: 1) by, 2) on, 3) across, 4) during, 5) behind/in; 6) to

X: 1) is spoken; 2) visited, 3) had escaped, 4) will have written; 5) has been

XI: a) A blue shirt was brought by the boy in/from the shop.
b) Balu said that he was reading a book then.
c) Nehru is more famous than some other leaders
d) Sita is not only pretty but also intelligent.
e) can't he?

XII: a) died, b) had died, c) doesn't belong, d) a noise, e) was

XIII: a) i,ee; b) u,m,l; c) u,t; d) u,a; e) e,o; f) y,e.

XIV: a) b, b) y, c) ue, d) h, e) c, f) h

XV: a) adverb, b) preposition, c) adjective, d) noun, e) pronoun, f) verb

XVI: 1) e, 2) c, 3) a, 4) f, 5) b, d

XVIII: 1) dodge; 2) measly; 3) insolently; 4) catch; 5) scoff; 6) perspective; 7) forgo; 8) apple; 9) pear; 10) fought.

OR

1) without, 2) charisma; 3) unit, 4) food; 5) hood.

XIX: 1) 3 syllables, 2) 2, 3) 3, 4) 3, 5) 2, 6) 1, 7) 1, 8) 1, 9) 4, 10) 2

AP EAMCET-2016 Question Paper with Key

మొత్తం ప్రశ్నల సంఖ్య: 160 | మార్కులు: 160 | సమయం: 3 గం.

MATHEMATICS

1. The domain of the function
$f(x)=\sqrt{l\,og_{0.5}x!}$
$f(x)=\sqrt{l\,og_{0.5}x!}$ అనే ప్రమేయ ప్రదేశం?
1) {0, 1, 2, 3, ...}
2) {1, 2, 3, ...}
3) (0, ∞) 4) {0, 1}

2. If $f(x) = |x-1| + |x-2| + |x-3|$, $2 < x < 3$, then f is:
1) an onto function but not one-one
2) one-one function but not onto
3) a bijection
4) neither one-one nor onto
$f(x) = |x-1| + |x-2| + |x-3|$, $2 < x < 3$ అయితే f అనేది..
1) ఒక సంగ్రస్త ప్రమేయం, కానీ అన్వేకం కాదు
2) ఒక అన్వేక ప్రమేయం, కానీ సంగ్రస్తం కాదు
3) ఒక ద్విగుణ ప్రమేయం
4) అన్వేకం కాదు, సంగ్రస్తం కాదు

3. The greatest positive integer which divides (n+16) (n+17) (n+18) (n+19) for all positive integers n, is:
అన్ని ధన పూర్ణాంకాలు nలకు (n+16) (n+17)(n+18)(n+19)ను భాగించే గరిష్ఠ ధన పూర్ణాంకం ఏది?
1) 6 2) 24 3) 28 4) 20

4. If a, b, c are distinct positive real numbers, then the value of the determinant $\begin{vmatrix} a & b & c \\ b & c & a \\ c & a & b \end{vmatrix}$
a, b, cలు విభిన్న ధన వాస్తవ సంఖ్యలైతే, $\begin{vmatrix} a & b & c \\ b & c & a \\ c & a & b \end{vmatrix}$ నిర్ధారకం విలువ?
1) < 0 2) > 0 3) 0 4) ≥ 0

5. If x_1, x_2, x_3 as well as y_1, y_2, y_3 are in geometric progression with the same common ratio then the points (x_1, y_1), (x_2, y_2), (x_3, y_3) are:
1) Vertices of an equilateral triangle
2) Vertices of a right angled triangle
3) Vertices of a right angled isosceles triangle
4) Collinear
$x_1, x_2, x_3, y_1, y_2, y_3$లు ఒకే పదాను పాతం ఉన్న గుణశ్రేఢులు అయితే, (x_1, y_1), (x_2, y_2), (x_3, y_3) బిందువులు..
1) సమబాహు త్రిభుజ శీర్షాలు
2) లంబకోణ త్రిభుజ శీర్షాలు
3) లంబకోణ సమద్విబాహు త్రిభుజ శీర్షాలు
4) సరేఖీయాలు

6. The equations $x - y + 2z = 4$, $3x + y + 4z = 6$, $x + y + z = 1$ have:
1) Unique solution
2) Infinitely many solutions
3) No solution
4) Two solutions
$x - y + 2z = 4$, $3x + y + 4z = 6$
$x + y + z = 1$ సమీకరణాలకు..
1) ఏకైక సాధన ఉంటుంది
2) అనంత సాధనలు ఉంటాయి
3) సాధన ఉండదు
4) రెండు సాధనలు ఉంటాయి

7. The locus of the point representing the complex number z for which $|z+3|^2 - |z-3|^2 = 15$ is:
1) A circle 2) A parabola
3) A straight line
4) An ellipse
$|z+3|^2-|z-3|^2 = 15$ అయ్యేటట్లు, సంకీర్ణ సంఖ్య zను సూచించే బిందువు బిందుపథం?
1) ఒక వృత్తం 2) ఒక పరావలయం
3) ఒక సరళరేఖ 4) ఒక దీర్ఘవృత్తం

8. $\frac{(1+i)^{2016}}{(1-i)^{2014}} =$
1) $-2i$ 2) $2i$ 3) 2 4) -2

9. If $|z_1| = 1$, $|z_2| = 2$, $|z_3| = 3$ and $|9z_1z_2+4z_1z_3+z_2z_3| = 12$, then the value of $|z_1+z_2+z_3|$ is:
$|z_1| = 1$, $|z_2| = 2$, $|z_3| = 3$, $|9z_1z_2+4z_1z_3+z_2z_3| = 12$ అయితే $|z_1+z_2+z_3|$ విలువ?
1) 3 2) 4 3) 8 4) 2

10. If 1, $z_1, z_2, \ldots, z_{n-1}$ are the n^{th} roots of unity, then
$(1-z_1)(1-z_2) \ldots (1-z_{n-1}) =$
1, $z_1, z_2, \ldots z_{n-1}$లు ఏకకం nవ మూలాలైతే $(1-z_1)(1-z_2)\ldots(1-z_{n-1}) =$
1) 0 2) n–1 3) n 4) 1

11. If $12^{4+2x^2} = (24\sqrt{3})^{3x^2-2}$ then $x =$
$12^{4+2x^2} = (24\sqrt{3})^{3x^2-2}$ అయితే $x =$
1) $\pm\sqrt{\frac{13}{12}}$ 2) $\pm\sqrt{\frac{14}{5}}$
3) $\pm\sqrt{\frac{12}{13}}$ 4) $\pm\sqrt{\frac{5}{14}}$

12. The product and sum of the roots of the equation $|x^2| - 5|x| - 24 = 0$ are respectively:
$|x^2| - 5|x| - 24 = 0$ అనే సమీకరణం మూలాల లబ్ధం, మొత్తం వరసగా..
1) –64, 0 2) –24, 5
3) 5, –24 4) 0, 72

13. The number of real roots of the equation $x^5 + 3x^3 + 4x + 30 = 0$ is:
$x^5 + 3x^3 + 4x + 30 = 0$ అనే సమీకరణానికి ఉండే వాస్తవ మూలాల సంఖ్య?
1) 1 2) 2 3) 3 4) 5

14. If the coefficients of the equation whose roots are k times the roots of the equation $x^3+\frac{1}{4}x^2-\frac{1}{16}x+\frac{1}{144}=0$ are integers then a possible value of k is:
$x^3+\frac{1}{4}x^2-\frac{1}{16}x+\frac{1}{144}=0$ సమీకరణం మూలాలకు k రెట్లు ఉండే మూలాలను కలిగి ఉన్న సమీకరణం గుణకాలు పూర్ణ సంఖ్యలు అయితే kకి వీలైన ఒక విలువ?
1) 3 2) 12 3) 9 4) 4

15. The sum of all 4-digit numbers that can be formed using the digits 2, 3, 4, 5, 6 without repetition, is:
2, 3, 4, 5, 6 అంకెలను పునరావృతం కాకుండా ఉపయోగిస్తే వచ్చే అన్ని 4 అంకెల సంఖ్యల మొత్తం ఎంత?
1) 533820 2) 532280
3) 533280 4) 532380

16. If a set A has 5 elements, then the number of ways of selecting two subsets P and Q from A such that P and Q are mutually disjoint, is:
సమితి Aలో 5 మూలకాలుంటే, P, Qలు పరస్పరం వియుక్తాలయ్యేటట్లుగా A నుంచి రెండు ఉప సమితులు P, Qలను ఎంచుకోగలిగే విధాల సంఖ్య?
1) 64 2) 128
3) 243 4) 729

17. The coefficient of x^4 in the expansion of $(1-x+x^2-x^3)^4$ is:
$(1-x+x^2-x^3)^4$ విస్తరణలో x^4 గుణకం?
1) 31 2) 30 3) 25 4) –14

18. If the middle term in the expansion of $(1+x)^{2n}$ is the greatest term, then x lies in the interval?
$(1+x)^{2n}$ విస్తరణలోని మధ్య పదం గరిష్ఠ పదం అయితే x ఉండే అంతరం ఏది?
1) $\left(\frac{n}{n+1},\frac{n+1}{n}\right)$ 2) $\left(\frac{n+1}{n},\frac{n}{n+1}\right)$
3) (n–2, n) 4) (n–1, n)

19. To find the coefficient of x^4 in the expansion of $\frac{3x}{(x-2)(x-1)}$, the interval in which the expansion is valid, is:
$\frac{3x}{(x-2)(x-1)}$ విస్తరణలోని x^4 గుణకాన్ని కనుక్కోవడానికి, ఆ విస్తరణ చెల్లు బాటయ్యే అంతరం ఏది?
1) $-2 < x < \infty$ 2) $-\frac{1}{2} < x < \frac{1}{2}$
3) $-1 < x < 1$ 4) $-\infty < x < \infty$

20. If $(1+\tan\alpha)(1+\tan4\alpha) = 2$,
$\alpha \in \left(0, \frac{\pi}{16}\right)$ then $\alpha =$
$(1+\tan\alpha)(1+\tan4\alpha) = 2$,
$\alpha \in \left(0, \frac{\pi}{16}\right)$ అయితే $\alpha =$
1) $\frac{\pi}{20}$ 2) $\frac{\pi}{30}$ 3) $\frac{\pi}{40}$ 4) $\frac{\pi}{60}$

21. If $\cos\theta = \frac{\cos\alpha-\cos\beta}{1-\cos\alpha\cos\beta}$ then one of the values of $\tan\left(\frac{\theta}{2}\right)$ is:
$\cos\theta = \frac{\cos\alpha-\cos\beta}{1-\cos\alpha\cos\beta}$ అయితే, $\tan\left(\frac{\theta}{2}\right)$ యొక్క ఒక విలువ?
1) $\cot\frac{\beta}{2}\tan\frac{\alpha}{2}$ 2) $\tan\alpha\tan\frac{\beta}{2}$
3) $\tan\frac{\beta}{2}\cot\frac{\alpha}{2}$ 4) $\tan^2\frac{\alpha}{2}\tan^2\frac{\beta}{2}$

22. $\frac{1+\sin2\alpha}{\cos(2\alpha-2\pi)\tan\left(\alpha-\frac{3\pi}{4}\right)}-\frac{1}{4}\sin2\alpha\left(\cot\frac{\alpha}{2}+\cot\left(\frac{3\pi}{2}+\frac{\alpha}{2}\right)\right)=$
1) 0 2) 1
3) $\sin^2\frac{\alpha}{2}$ 4) $\sin^2\alpha$

23. If $\frac{1}{6}\sin\theta, \cos\theta$ and $\tan\theta$ are in geometric progression, then the solution set of θ is:
$\frac{1}{6}\sin\theta, \cos\theta, \tan\theta$ లు గుణశ్రేఢిలో ఉంటే θ సాధన సమితి?
1) $2n\pi\pm\left(\frac{\pi}{6}\right)$ 2) $2n\pi\pm\left(\frac{\pi}{3}\right)$
3) $n\pi+(-1)^n\left(\frac{\pi}{3}\right)$ 4) $n\pi+\left(\frac{\pi}{3}\right)$

24. If $x = \sin(2\tan^{-1}2)$ and $y=\sin\left(\frac{1}{2}\tan^{-1}\frac{4}{3}\right)$, then
$x = \sin(2\tan^{-1}2)$,
$y=\sin\left(\frac{1}{2}\tan^{-1}\frac{4}{3}\right)$ అయితే..
1) $x > y$ 2) $x = y$
3) $x = 0 = y$ 4) $x < y$

25. If $\cosh(x) = \frac{5}{4}$, then $\cosh(3x) =$
$\cosh(x) = \frac{5}{4}$ అయితే $\cosh(3x) =$
1) $\frac{61}{16}$ 2) $\frac{63}{16}$ 3) $\frac{65}{16}$ 4) $\frac{61}{63}$

26. In Δ ABC, if $x=\tan\left(\frac{B-C}{2}\right)\tan\frac{A}{2}$, $y=\tan\left(\frac{C-A}{2}\right)\tan\frac{B}{2}$ and $z=\tan\left(\frac{A-B}{2}\right)\tan\frac{C}{2}$, then $(x+y+z) =$
Δ ABC లో $x=\tan\left(\frac{B-C}{2}\right)\tan\frac{A}{2}$, $y=\tan\left(\frac{C-A}{2}\right)\tan\frac{B}{2}$, $z=\tan\left(\frac{A-B}{2}\right)\tan\frac{C}{2}$, అయితే $(x+y+z)$ విలువ?
1) xyz 2) $-xyz$
3) $2xyz$ 4) $\frac{1}{2}xyz$

27. In Δ ABC, if the sides a, b, c are in geometric progression and the largest angle exceeds the smallest angle by 60° then cosB =
ABC త్రిభుజంలోని భుజాలు a, b, c గుణశ్రేఢిలో ఉండి, ఆ త్రిభుజ గరిష్ఠ, కనిష్ఠ కోణాల భేదం 60° అయితే, cosB =
1) $\frac{\sqrt{13}+1}{4}$ 2) $\frac{1-\sqrt{13}}{4}$
3) 1 4) $\frac{\sqrt{13}-1}{4}$

28. In Δ ABC if $\angle A = 90°$ then $\cos^{-1}\left(\frac{R}{r_2+r_3}\right)$ is equal to:
Δ ABCలో $\angle A = 90°$ అయితే, $\cos^{-1}\left(\frac{R}{r_2+r_3}\right) =$
1) 90° 2) 30°
3) 60° 4) 45°

29. The cartesian equation of the plane whose vector equation is $\bar{r}=(1+\lambda-\mu)\bar{i}+(2-\lambda)\bar{j}+(3-2\lambda+2\mu)\bar{k}$ where λ, μ are scalars, is:
λ, μలు అదిశలైనప్పుడు $\bar{r}=(1+\lambda-\mu)\bar{i}+(2-\lambda)\bar{j}+(3-2\lambda+2\mu)\bar{k}$ అనే సదిశా సమీకరణాన్ని కలిగిన తలం కార్టీసియన్ సమీకరణం?
1) $2x + y = 5$ 2) $2x - y = 5$
3) $2x - z = 5$ 4) $2x + z = 5$

30. For three vectors $\bar{p},\bar{q}$ and $\bar{r}$, if $\bar{r}=3\bar{p}+4\bar{q}$ and $2\bar{r}=\bar{p}-3\bar{q}$, then
1) $|\bar{r}|<2|\bar{q}|$ and $\bar{r},\bar{q}$ have the same direction
2) $|\bar{r}|>2|\bar{q}|$ and $\bar{r},\bar{q}$ have opposite directions
3) $|\bar{r}|<2|\bar{q}|$ and $\bar{r},\bar{q}$ have opposite directions
4) $|\bar{r}|>2|\bar{q}|$ and $\bar{r},\bar{q}$ have the same direction
మూడు సదిశలు $\bar{p},\bar{q},\bar{r}$ లకు $\bar{r}=3\bar{p}+4\bar{q}$, $2\bar{r}=\bar{p}-3\bar{q}$ అయితే
1) $|\bar{r}|<2|\bar{q}|$, $\bar{r}$, $\bar{q}$ లు ఒకే దిశలో ఉంటాయి
2) $|\bar{r}|>2|\bar{q}|$, $\bar{r}$, $\bar{q}$ లు వ్యతిరేక దిశలో ఉంటాయి
3) $|\bar{r}|<2|\bar{q}|$ $\bar{r}$, $\bar{q}$ లు వ్యతిరేక దిశలో ఉంటాయి
4) $|\bar{r}|>2|\bar{q}|$, $\bar{r}$, $\bar{q}$ లు ఒకే దిశలో ఉంటాయి

31. If $\bar{a}=2\bar{i}+3\bar{j}-5\bar{k}, \bar{b}=m\bar{i}+n\bar{j}+12\bar{k}$ and $\bar{a}\times\bar{b}=\bar{0}$, then (m, n) =
$\bar{a}=2\bar{i}+3\bar{j}-5\bar{k}, \bar{b}=m\bar{i}+n\bar{j}+12\bar{k}$, $\bar{a}\times\bar{b}=\bar{0}$ అయితే, (m, n) =
1) $\left(\frac{-24}{5},\frac{-36}{5}\right)$ 2) $\left(\frac{-24}{5},\frac{36}{5}\right)$
3) $\left(\frac{24}{5},\frac{-36}{5}\right)$ 4) $\left(\frac{24}{5},\frac{36}{5}\right)$

32. If $|\bar{a}|=3, |\bar{b}|=4$ and the angle between $\bar{a}$ and $\bar{b}$, is 120°, then $|4\bar{a}+3\bar{b}|$ is equal to
$|\bar{a}|=3, |\bar{b}|=4$, $(\bar{a},\bar{b})=120°$ అయితే, $|4\bar{a}+3\bar{b}|$ విలువ?
1) 25 2) 7 3) 13 4) 12

33. If $\bar{a},\bar{b},\bar{c}$ are non-zero vectors such that $(\bar{a}\times\bar{b})\times\bar{c}=\frac{1}{3}|\bar{b}||\bar{c}|\bar{a}, \bar{c}\perp\bar{a}$ and θ is the angle between the vectors $\bar{b},\bar{c}$ then sinθ =
$(\bar{a}\times\bar{b})\times\bar{c}=\frac{1}{3}|\bar{b}||\bar{c}|\bar{a}, \bar{c}\perp\bar{a}$, $\bar{b},\bar{c}$ ల మధ్య కోణం θ అయ్యేటట్లు $\bar{a},\bar{b},\bar{c}$ అనే శూన్యేతర సదిశలు ఉంటే, అప్పుడు sinθ =
1) $\frac{2\sqrt{2}}{3}$ 2) $\frac{1}{3}$ 3) $\frac{\sqrt{2}}{3}$ 4) $\frac{2}{3}$

34. If $a(\bar{\alpha}\times\bar{\beta})+b(\bar{\beta}\times\bar{\gamma})+c(\bar{\gamma}\times\bar{\alpha})=\bar{0}$ and at least one of the scalars a, b, c is non-zero, then the vectors $\bar{\alpha},\bar{\beta},\bar{\gamma}$ are
1) parallel 2) non coplanar
3) coplanar
4) mutually perpendicular
$a(\bar{\alpha}\times\bar{\beta})+b(\bar{\beta}\times\bar{\gamma})+c(\bar{\gamma}\times\bar{\alpha})=\bar{0}$ అదిశలలో కనీసం ఒకటి శూన్యేతరం అయితే, సదిశలు $\bar{\alpha},\bar{\beta},\bar{\gamma}$ లు
1) సమాంతరాలు 2) అతలీయాలు
3) సతలీయాలు
4) పరస్పరం లంబంగా ఉంటాయి

KEY

1) 4	2) 3	3) 2	4) 1	5) 4
6) 2	7) 3	8) 1	9) 4	10) 3
11) 2	12) 1	13) 1	14) 2	15) 3
16) 3	17) 1	18) 1	19) 3	20) 1
21) 1	22) 4	23) 2	24) 1	25) 3
26) 2	27) 4	28) 3	29) 4	30) 2
31) 1	32) 4	33) 1	34) 3	