INDUS RANGERS DEFENCE ACADEMY

4TH Floor Shakumbhari Complex, Chetmani Near: IP Vijaya Mall Bhelupur Varanasi, (U.P.– 221010)

IMU – CET [WEEKLY TEST]

PRACTICE SHEET – 4

Time: 01:00 Hr **M. M.: 120**

General Instructions:

- There are 30 questions
- All questions have 4 marks for correct and –1 mark for wrong answer as a penalty.
- The name, date, and exam must be filled in OMR sheet otherwise the result will not be published.
- OMR fill should be properly.

[ENGLISH]

1. (a) When he did not find his cook in the kitchen / (b) he asked his wife / (c) where had he gone. / (d) No error
2. (a) I do not know where could he have gone / (b) so early / (c) in the morning. / (d) No error
3. (a) The passer-by told us / (b) where was the marriage hall / (c) and even led us to it. / (d) No error
4. (a) I have passed / (b) the examination / (c) two years ago / (d) No error
5. (a) Perhaps you know / (b) that I have passed / (c) the examination in 1990. / (d) No error
6. (a) When they stole / (b) the money / (c) and where did they hide it? / (d) No error
7. (a) The teacher / (b) has took / (c) the responsibility / (d) No error.
8. (a) This is turned out to be / (b) one of our most successful projects / (c) and we have made quite / (d) a large profit from it. / (e) No error
9. (a) He is given me / (b) a lot of documents / (c) to read before / (d) the presentation tomorrow. / (e) No error
10. (a) Since the trip home / (b) was expensive I / (c) did not went home / (d) during the holidays. / (e) No error

[MATHEMATICS]

11. After simplification, what is the number of terms in the expansion of $[(3x+y)^5]^4 - [(3x-y)^4]^5$?
    (a) 4 (b) 5 (c) 10 (d) 11
12. What is the coefficient of x^{17} in the expansion of $\left(3x - \frac{x^3}{6}\right)^9$?
    (a) $\frac{189}{8}$ (b) $\frac{567}{2}$ (c) $\frac{21}{16}$ (d) N.O.T.
13. What is the coefficient of x^{17} in the expansion of $\left(\frac{1-x}{1+x}\right)^2$?
    (a) – 16 (b) 16 (c) 8 (d) – 8

14. What is the middle term in the expansion of $\left(1-\frac{x}{2}\right)^8$?

(a) $\frac{35x^4}{8}$ (b) $\frac{17x^5}{8}$ (c) $\frac{35x^5}{8}$ (d) N.O.T.

15. The value of the term independent of x in the expansion of $\left(x^2-\frac{1}{x}\right)^9$ is:

(a) 9 (b) 18 (c) 48 (d) 84

16. In the expansion of $(1+x)^{43}$, if the coefficients of $(2r+1)^{th}$ and $(r+2)^{th}$ terms are equal, then what is the value of r, $(r \neq 1)$?

(a) 5 (b) 14 (c) 21 (d) 22

17. If the coefficients of a^m and a^n in the expansion of $(1+a)^{(m+n)}$ are α and β, then which one of the following is correct?

(a) $\alpha = 2\beta$ (b) $\alpha = \beta$ (c) $2\alpha = \beta$ (d) $\alpha = (m+n)\beta$

18. What is the number of non–zero terms in the expansion of $\left(1+2\sqrt{3}\,x\right)^{11} + \left(1-2\sqrt{3}\,x\right)^{11}$ (after simplification)?

(a) 4 (b) 5 (c) 6 (d) 11

19. If the constant term in the expansion of $\left(\sqrt{x}-\frac{k}{x^2}\right)^{10}$ is 405, then what can be the value of k?

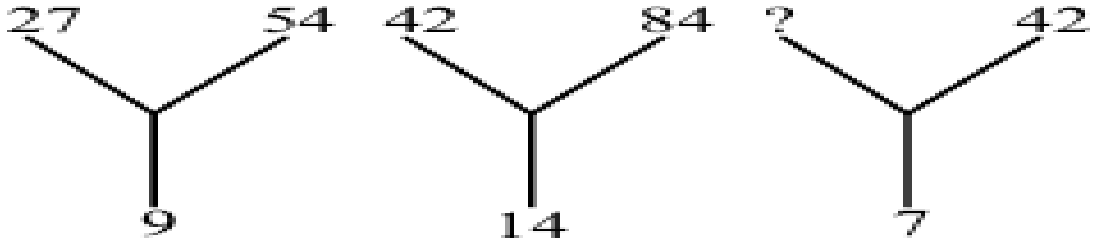
(a) ± 2 (b) ± 3 (c) ± 5 (d) ± 9

20. The term independent of x in the binomial expansion of $\left(\frac{2}{x^2}-\sqrt{x}\right)^{10}$ is equal to

(a) 180 (b) 120 (c) 90 (d) 72

[REASONING]

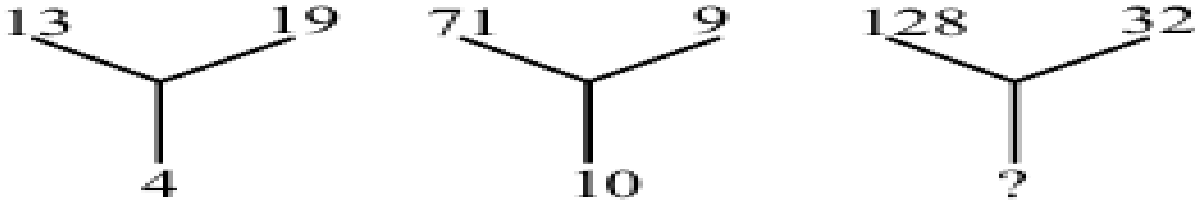
21.



(a) 12 (b) 21

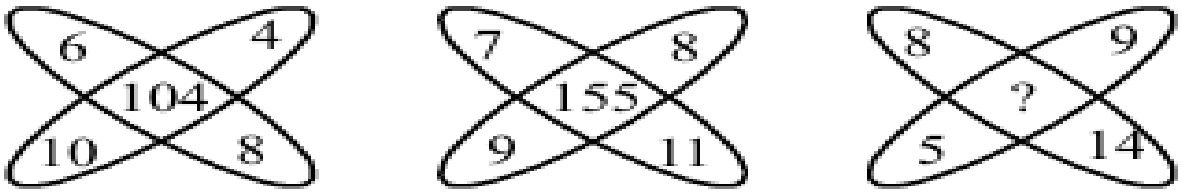
(c) 24 (d) 35

22.



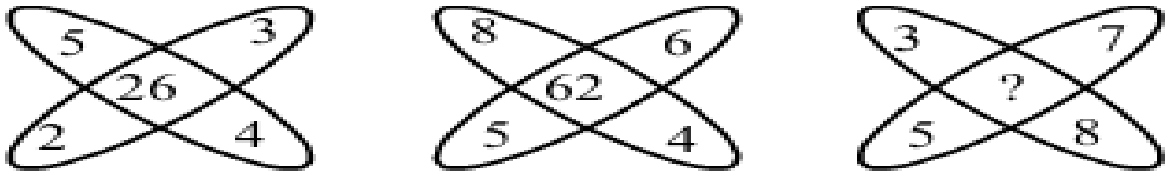
(a) 10 (b) 15

(c) 20 (d) 25

23. 

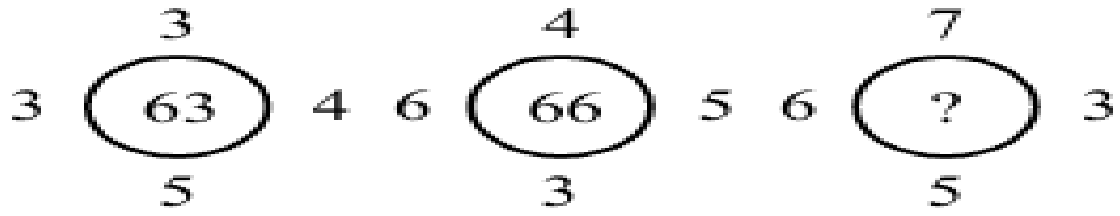
(a) 152 (b) 164

(c) 140 (d) 142

24. 

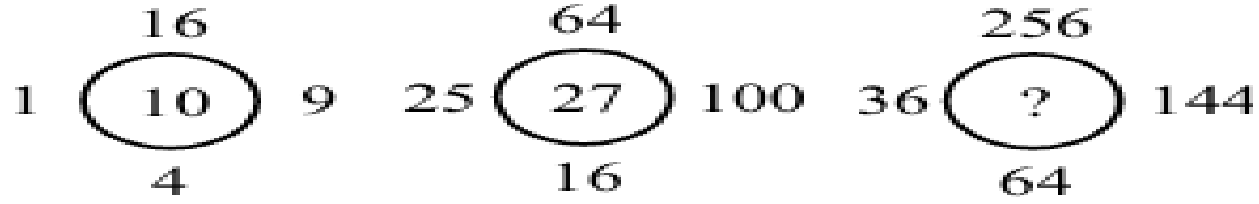
(a) 71 (b) 59

(c) 62 (d) 55

25. 

(a) 57 (b) 53

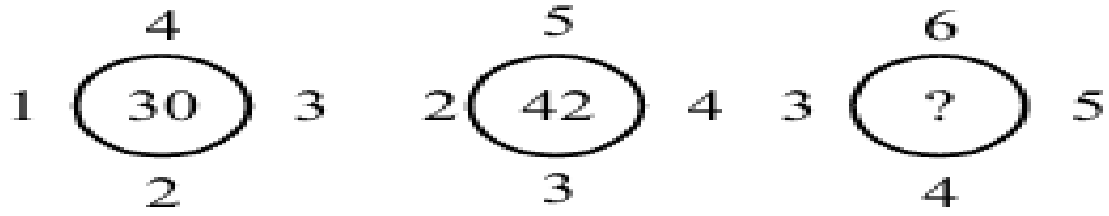
(c) 105 (d) 111

26 

(a) 37 (b) 47

(c) 06 (d) 42

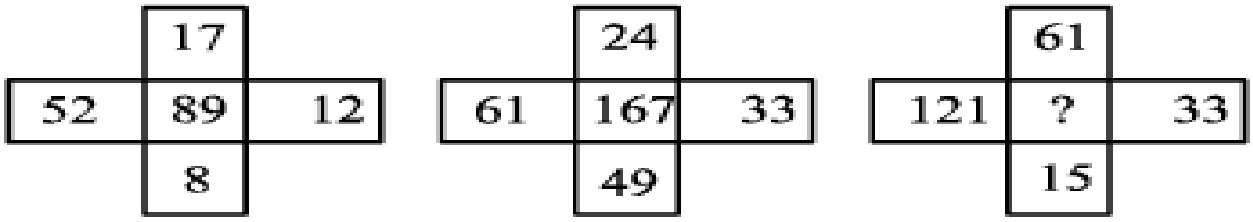
27.



(a) 54 (b) 45

(c) 35 (d) 53

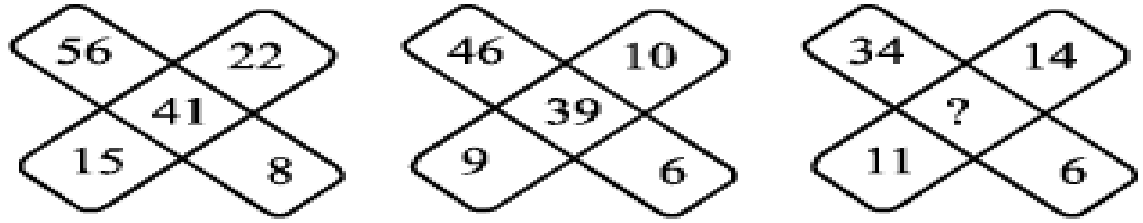
28.



(a) 240 (b) 230

(c) 232 (d) 251

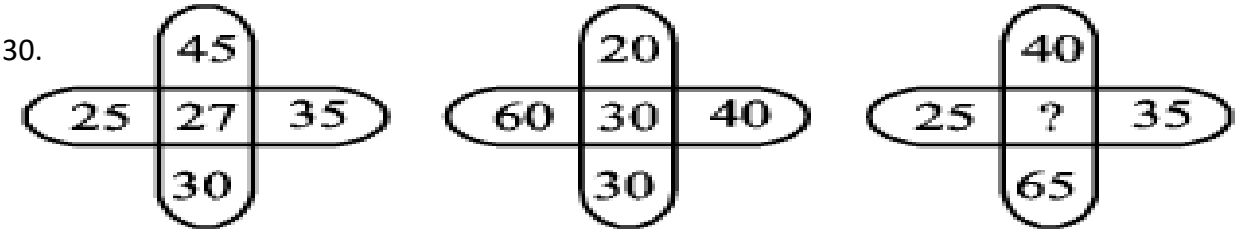
29.



(a) 35 (b) 37

(c) 12 (d) 48

30.



(a) 36 (b) 33

(c) 45 (d) 60