QP CODE: D2BMT2406	**(Pages: 4)**	**Reg. No**	**:**	**.....**
		Name	**:**	**.....**

Second Semester (FYUGP) Degree Examination April 2025

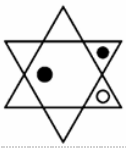
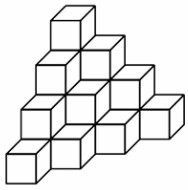
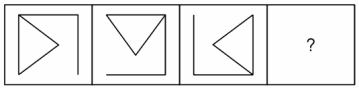
MDC Mathematics

MAT2FM106(2)/AMA2FM106(2) : Mathematics for Competitive Examinations-Part II

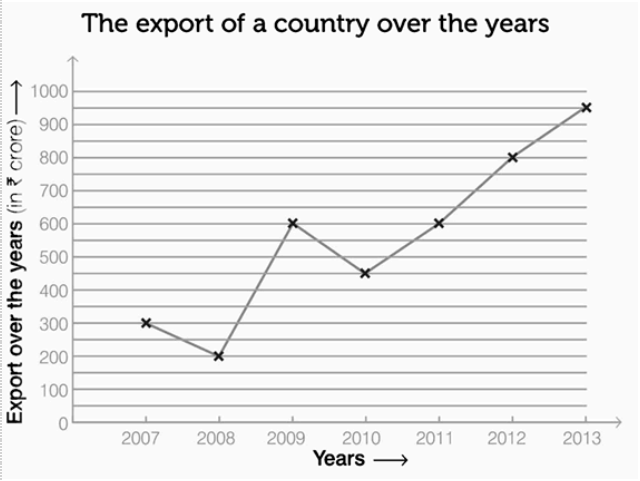
Time: 1.5 Hours **Maximum Marks: 50**

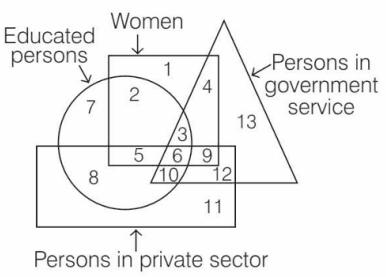
Section A

Answer the following questions. Each carries 2 marks (Ceiling: 16 marks)

1.	Ravi is 7 ranks ahead of Sumit in a class of 39. If Sumit's rank is 17th from the last, what is Ravi's rank from the top? (A) 14th (B) 12th (C) 16th (D) 11th	BL2	CO1, CO2, CO3
2.	P and Q are brothers, X and Y are sisters, son of P is the brother of Y. How is Q related to X? (A) Father (B) Brother (C) Daughter (D) Uncle	BL2	CO2, CO3
3.	Choose the figure which will complete the second pair, in the same as the first pair.  (A).  (B).  (C).  (D). 	BL2	CO1, CO2, CO3
4.	How many cubes are there in the ground?  (A) 10 (B) 16 (C) 18 (D) 20	BL1	CO1, CO2, CO3
5.	Choose the figure which will complete the following series.  (A)  (B)  (C)  (D) 	BL1	CO2, CO3
6.	Find the missing term in the given series, E, J, ?, T, Y, D (A) B (B) O (C) F (D) J	BL2	CO2, CO3
7.	Shikha went 10 km South from her house. She turned right and goes 5 km, again turned right and cycled 10 km. Now, she turned left and cycled 10 km. What is the shortest distance of Shikha from her house? (A) 5km (B) 15km (C) 20km (D) 25km	BL2	CO2, CO3

(PTO)

8.	Find the mirror image of the folloiwng combination of letters: "STROKE" (A) ƧTЯOKE (B) EKORTS (C) SꞀROKE (D) ƎꓘOЯTS	BL1	CO2, CO3
9.	The statement given below is followed by two arguments numbered I and II. You have to decide which of the argument is a 'strong' argument and which one is 'weak' argument. Statement: Should number of holidays of government employees be reduced? Arguments: I. Yes, our government employees are having maximum number of holidays among the other countries of the world. II. Yes, it will lead to increased productivity of government officies. (A) if only I is strong (B) if only II is strong (C) if neither I nor II is strong (D) if both I and II are strong	BL1	CO2, CO3
10.	Study the following graph and answer the question.  What is the difference in exports in the years 2009 and 2010? (A) 50 crore (B) 100 crore (C) 150 crore (D) 200 crore	BL3	CO1, CO3
	Section B		
	Answer the following questions. Each carries 6 marks (Ceiling: 24 Marks)		
11.	In each of the following questions, choose that set of numbers from the four alternative sets, which is similar to the given set. (i) Given set : (15,27,39) (a) (75,27,81) (b) (105,125,145) (c) (77,78,85) (d) (57,35,65) (ii) Given set : (49,81,25) (a) (25,45,27) (b) (22,37,41) (c) (17,12,9) (d) (100,289,4)	BL2	CO1, CO2, CO3
12.	In the adjoining Venn diagram, the square represents women, the triangle represents persons who are in government services, the circle represents educated persons and the rectangle represents persons working in private sector. Each section of the diagram is numbered. Study the diagram and answer the questions that follow.	BL2	CO1, CO2, CO3



(i) Which number represents the uneducated women, who have government jobs as well as jobs in private sector?

(a) 6 (b) 4 (c) 12 (d) 9

(ii) Which number represents educated women, who are in government jobs?

(a) 2 (b) 3 (c) 6 (d) 4

(iii) Number 10 represents?

(a) Educated women in private job

(b) Uneducated men in government job

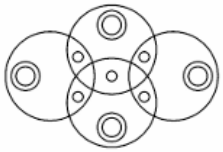
(c) Educated men working in private sector

(d) Educated men having private as well as government job

13. (i) How many minimum straight lines are required to form the following figure? BL2 CO1, CO2, CO3

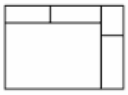
(A). 5 (B). 6 (C). 7 (D). 8

(ii) How many circles are there in the figure?



(A). 13 (B). 16 (C). 17 (D). 22

(iii) How many rectangles are there in the figure?



(A). 6 (B). 7 (C). 8 (D). 9

14. In a circle of radius 17cm, two parallel chords are drawn on opposite side of a diameter. The distance between the chords is 23cm. If the length of one chord is 16cm, then the length of the other is: BL3 CO1, CO3

(a) 34 cm (b) 15 cm (c) 23 cm (d) 30 cm

15. In each of the following questions, find out the wrong term. BL2 CO1, CO2, CO3

(i) 5, 11, 24, 52, 106

(a) 11 (b) 24 (c) 52 (d) 106

(ii) 8, 24, 72, 248, 648

(a) 72 (b) 248 (c) 24 (d) 648

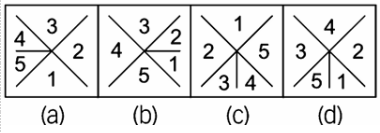
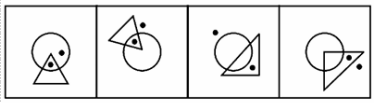
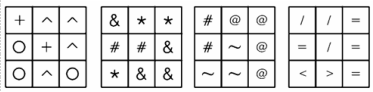
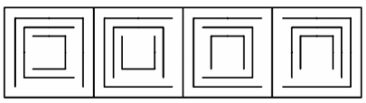
(iii) 10, 90, 170, 250, 340, 410

(a) 170 (b) 250 (c) 340 (d) 410

(PTO)

Section C

Answer any one question. Each carries 10 marks (1 x 10 = 10 Marks)

16.	(i) In a certain code, 'TERMINAL' is written as 'NSFUMBOJ' and 'TOWERS' is written as 'XPUTSF'. How is 'MATE' written in that same code? (a) FUBN (b) UFNB (c) BNFU (d) BNDS (ii) In a certain code language, '123' means 'bright llittle boy', '145' means 'tall big boy' and '637' means 'beautiful little flower'. Which digit in that language means 'bright'? (a) 1 (b) 2 (c) 3 (d) 4 (iii) In a certain code language 'Mink Young Pe' means 'fruits are ripe', 'Pe Lao May Mink' means 'oranges are not ripe' and 'May Pe Nue Mink' means 'mangoes are not ripe'. Which word in that language means 'mangoes'? (a) May (b) Lao (c) Nue (d) Mink (iv) If 'gnr tag zog qmp' stands for 'Seoul Olympic Organising Committee', 'hyto gnr emf' stands for 'Summer Olympic Games' and 'emm sdr hyto' stands for 'Morden Games History'.What would be the code for 'Summer'? (a) hyto (b) gnr (c) emf (d) zog	BL3	CO1, CO2, CO3
17.	Choose the figure which is different from others. (i) Problem figure  (a) (b) (c) (d) (ii) Problem figure  (a) (b) (c) (d) (iii) Problem figure  (a) (b) (c) (d) (iv) Problem figure  (a) (b) (c) (d)	BL2	CO1, CO2, CO3

CO : Course Outcome

BL : Bloom's Taxonomy Levels (1 – Remember, 2 – Understand, 3 – Apply, 4 – Analyse, 5 – Evaluate, 6 – Create)