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MENTAL ABILITY TEST (MAT)-VII
ANALOGY
BASIC CONCEPTS

Name: _____   Class: _____   Date: _____

- Analogy can be explained as a similarity between things in some respects that are otherwise dissimilar.
- It can be regarded as comparison made between two or more things in order to show their similarity.
- It can also be explained as a similarity between like features of two things (which are otherwise unlike) on which a comparison may be based.
- So, it can be deduced that **Analogy** is a form of reasoning in which one thing is inferred to be similar to another thing in a certain respect, on the basis of known similarities.

Illustration:

1. Dog : Rabies :: Mosquito : Malaria

   Explanation: Second word is the disease caused by the bite of first word.

2. Moon : Satellite :: Earth : Planet

   Explanation: First word belongs to the category of second word.

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MENTAL ABILITY TEST (MAT)-VII

ANALOGY

WORKSHEET-1

Name: _____   Class: _____   Date: _____

Type I:

Directions: In each of the following questions, there is a certain relationship between two given words of one side of :: and one word is given on another side of ::, while another word is to be found from the given alternatives, having the same relation with this word as the words of the given pair bear. Choose the best alternative.

1. Bread : Yeast :: Curd: ?
   a. Fungi   b. Bacteria   c. Germs   d. Virus

2. Man : Machine :: Master : ?
   a. Worker   b. Manager   c. House   d. Slave

3. Disease : Pathology :: Planet : ?
   a. Astrology   b. Geology   c. Astronomy   d. Palaeontology

4. Professor: Lecture :: Doctor : ?
   a. Hospital   b. Disease   c. Medicine   d. Patient

5. Oxygen: Burn :: Carbon dioxide : ?
   a. Isolate   b. Foam   c. Extinguish   d. Explode

6. Tehran: Iran :: Beijing: ?
   a. China   b. Japan   c. Turkey   d. Malaysia

Type II

Directions: The following questions consist of two words each that have a certain relationship to each other, followed by four lettered pairs of words. Select the lettered pair that has the same relationship as the original pair of words.

1. Dusk: Night
   a. Day: Light   b. Infant: Child

   c. Afternoon: Evening   d. Walk: Run

2. Teeth: Dentist
   a. Legs: Philanthropist   b. Eyes: Oculist
   C. Operation: Surgeon   d. Sight: Spectator

3. Branch: Tree
    a. Crest: Wave   b. Bulb: Filament
    c. Clothes: Cupboard   d. Water: Tap

4. Fox: Cunning
    a. Cat: Playful   b. Horse: Runner
    C .Vixen: Cute   d. Ant: Industrious

5. House: Ceiling
    a.Hut: Roof   b. Building: Floor
    c. Bed: Bed sheet   d. Grapes: Wine

Type III

Directions: In each of the following questions the first two words have definite relationship. Choose one word out of the given four alternatives which will fill in the blank space and show the same relationship with the third word as between the first two.

1. Venus is to Earth as Mercury is to _____?
a. Sun   b. Pluto   c. Mars   d. Moon

2. Steel is to Bokaro as Hosiery is to _____?
a. Chennai   b. Patna   c. Kolkata   d. Ludhiana

3. Bicycle is to Pedal as Boat is to _____?
a. Steering   b. Water   c. Oar   d. Sail

4. Cobra is related to Snake in the same way as Leopard _____?
a. Tiger   b. Lion   c. Cat   d. Zebra

5. Boat is related to Sails in the way as Balloon is related to _____?
a. Hot Air   b. Rope   c. Nylon   d. Rubber

6. Lion is related to ferocious in the same way as Dog is related to _____?
a. Mischievous b. Faithful   c. Timid   d. Industrious

7. Clue is related to Mystery in the same way as warning is related to ___?
a. Disaster   b. Precaution   c. Risk   d. Danger

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MENTAL ABILITY TEST (MAT)-VII
ANALOGY
WORKSHEET-2

Name: _____   Class: _____   Date: _____

Type I

Directions: In each of the following questions, there is a certain relationship between two given words of one side of :: and one word is given on another side of ::, while another word is to be found from the given alternatives, having the same relation with this word as the words of the given pair bear. Choose the best alternative.

1. Horse: Jockey :: Car: ?

    A) Chauffeur   B) Steering   C) Mechanic   D) Brake

2. Motorcycle: Battery :: Life : ?

    A) Stars   B) Moon   C) Sun   D) Earth

3. Melt: Liquid :: Freeze : ?

    A) Condense   B) Solid   C) Ice   D) Crystal

4. Eye: Myopia :: Teeth : ?

    A) Cataract   B) Trachoma   C) Eczema   D) Pyorrhoea

5. Wax: Grease :: Milk : ?

    A) Protein   B) Drink   C) Ghee   D) Curd

6. Rupee Indian :: Yen : ?

    A) Pakistan   B) Turkey   C) Japan   D) Bangladesh

7. Appraiser: Building :: Critic : ?

    A) Masterpiece   B) Judge   C) Gold   D)Book

8. Fear: Threat : : Anger : ?

    A) Panic   B) Compulsion   C) Force   D) Provocation

9. Race: Fatigue :: Fast : ?

    A) Weakness   B) Hunger   C) Appetite   D) Food

10. Factory: Production :: School: ?

    A) Teachers   B) Students   C) Building   D) Education

Type II

Directions: In each of the following questions the first two words have definite relationship. Choose one word out of the given four alternatives which will fill in the blank space and show the same relationship with the third word as between the first two.

1. Tennis is related to Court in the same way as Boxing is related to _____?

   A) Pool   B) Ring   C) Arena   D) Course

2. Necklace is related to Jewellery in the same way as Shirt is related to _____?

   A) Thread   B) Cloth   C) Cotton   D) Apparel

3. Doctor is related to the Patient in the same way as Lawyer is related to _____?

   A) Customer B) Accused   C) Magistrate   D) Client

4. Happiness is related to Sorrow in the same way as Comfort is related to _____?

   A) Hardship   B) Rest   C) Poverty   D) Difficulty

5. Needle is related to the Thread in the same way as Pen is related to _____?

   A) Ink   B) Cap   C) Paper   D) Word   E) Stationery

6. Chef is related to Restaurant in the same way as Druggist is related to _____?

   A) Medicine   B) Pharmacy   C) Store   D) Chemist

7. Gents is related to Cap in the same way as Ladies is related to _____?

   A) Scarf   B) Hat   C) Handkerchief   D) Hairband

8. Engineer is related to machine in the same way as Doctor is related to _____?

   A) Hospital   B) Body   C) Disease   D) Medicine

9. Rhythm is related to Music in the same way as Design is related to _____?

   A) Symmetry   B) Architect   C) Beauty   D) Building

10. Drama is related to Director in the same way as Magazine is related to _____?

    A) Story   B) Editor   C) Reader   D) Printer

Type III

Directions: The following questions consist of two words each that have a certain relationship to each other, followed by four lettered pairs of words. Select the lettered pair that has the same relationship as the original pair of words.

1.   Darkness : Lamp
     A) Fatigue : Exercise   B) Thirst : Water

     C) Medicine : Illness   D) Study : Classroom

2.   Fish : Shoal
     A) Audience : Theatre   B) Shark : School

     C) Elephant: Flock   D) Whale: Herd

3.   Chimney: Smoke
     A) Tea: Kettle   B) Clay: Ceramic

     C) House: Roof   D) Gun: Bullet

4.   Savage: Civilized
     A) Illiterate: Book   B) Dark: Lighted

     C) Wild: Animal   D) Brutal: Heroic

5.   Run: Race
     A) Enjoy: Journey   B) Lecture: Study

     C) Study: Book   D) Party: Dance

6.   Train: Track
     A) Idea: Brain   B) Bullet: Barrel

     C) Water: Boat   D) Fame: Television

7.   Wick: Candle
     A) Lead: Pencil   B) Thread: Wool

     C) Light: Darkness   D) Quick: Rapid

8.   Circle: Diameter
     A) Rectangle: Diagonal   B) Diameter: Radius

     C) Square: Rectangle   D) Bisector: Angle

9.   Hands: Gloves
     A) Bank: Fog   B) Socks: Feet
     C) Fish: Water   D) Legs: Shoes

10. Bird: Wings
     A) Whale: Water   B) Dog: Lungs

     C) Car: Wheel   D) Pen: Paper

                    ****

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MENTAL ABILITY TEST (MAT)-VII
CLASSIFICATION
BASIC CONCEPTS

Name: _____   Class: _____   Date: _____

- Classification means to separate/ assort the items of a given group on the basis of certain common qualities they possess and then spot the stranger or odd on out.

- In this test, you are given a group of certain items, out of which all except one are similar to one another in some manner. You have to choose this one item which does not fit into the given group.

- These tests judge your ability to observe differences and similarities among various items. You must determine the similarity of characteristics in the given terms and then identify the one which does not have same characteristics.

- These characteristics can be based on relationship, repetition and skipping pattern relationship, letter formation relationship, squares and cubes, etc.
  For eg.

  Find the odd one out:

1. a. Potato   b. Tomato   c. Gourd   d. Brinjal   e. Cucumber
   Ans: a - as potato is the only one that grows underground

2. a. 1:1   b. 2:4   c. 5:25   d. 9: 81   e. 3: 27
   Ans: e – Second number is square of first except in option d.

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MENTAL ABILITY TEST (MAT)-VII
CLASSIFICATION
WORKSHEET-1

Name: _____   Class: _____   Date: _____

Type-I: Find the odd one out: Three of the following four are alike in a certain way and hence form a group. Which is the one that does not belong to that group?

1. a) Lion   b) Bear   c) Cheetah   d) Leopard

2. a) Nanak   b) Christ   c) Buddha   d) Gandhi

3. a) Burrow   b) Roof   c) Den   d) Nest

4. a) Sheet   b) Pillow   c) Cot   d) Quilt

5. a) Mechanic   b) Blacksmith   c) Engineer   d) Mason

6. a) Day   b) Date   c) Calendar   d) Month

7. a) Sparrow   b) Parrot   c) Swam   d) Vulture

8. a) Rifle   b) Pistol   c) Sword   d) Cannon

9. a) Lake   b) Sea   c) River   d) Pool

10. a) Apple   b) Litchi   c) Guava   d) Orange

Type –II: In each of the following questions, certain pairs of words are given, out of which the words in all the pairs except one, bear a certain common relationship. Choose the pair in which the words are differently related.

11. a) Farmer : Plough   b) Butcher : Chopper c) Author : Book   d) Jockey : Tack

12. a) Robust : Weak   b) Chaos : Peace   c) Cruel : kind   d) Sink : Float
    e)Abduct: Kidnap

13. a) Man : Garage   b) Cow : Shed   c) Pig : Sty   d) Horse : Stable

14. a) Jewellery : Gold b) Table : Wood   c) Shirt : Fabric   d) Iron : Axe

15. a)Flower : Petal   b) Circle : Arc   c) Cover : Page   d) Chair : Leg

16. a) Oil : Lamp   b) Water : Tap   c) Oxygen : Life   d) Power : Machine

17. a) Sum: Total   b) Now: Present   c) Big: Notion   d) Yes: Agree
    e) Further: Future

18. a) Book: Pages   b) Parliament: Members   c) Continent: Countries
    d) Fruit: Seeds   e) Bouquet: Flowers

19. a) Mason: Wall   b) Cobbler: Shoe   c) Farmer: Crop

    d) Chef: Cook   e) Choreographer: Ballet

20. a) Cow: Calf   b) Dog: Bitch   c) Lion: Cub

    d) Tortoise: Turtle e) Insect: Larva

Type III: Choose the odd numeral pair/group in each of the following questions.

21. a) 7: 22   b) 12 : 37   c) 8 : 33   d) 15 : 46

22. a) 3:9   b) 7:49   c) 9:81   d) 10:101

23. a) 2: 8   b) 3: 27   c) 4: 32   d) 5: 125

24. a) 34: 43   b) 55: 62   c) 62: 71   d) 83: 92

25. a) 80: 9   b) 64: 8   c) 36: 6   d) 49: 7

26. a) 5188   b) 9238   c) 8244   d) 9862   e) 6311

27. a) 9   b) 3   c) 19   d) 15   e) 30

28. a) 83-75   b) 58-50   c) 49-32   d) 25-17   e) 8-0

29. a) 7654   b) 4567   c) 9876   d) 4321   e) 5621

30. a) 49   b) 85   c) 121   d) 81   e) 196

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MENTAL ABILITY TEST (MAT)-VII
CLASSIFICATION
WORKSHEET-2

Name: _____   Class: _____   Date: _____

Type-I: Find the odd one out: Three of the following four are alike in a certain way and hence form a group.

Which is the one that does not belong to that group?

1. a) Water   b) Jelly   c) Lemonade   d) Coffee   e) Milk

2. a) Sad   b) Jovial   c) Cheerful   d) Festive   e) Lively

3. a) Polo   b) Chess   c) Ludo   d) Squash   e) Cards

4. a) Rabbit   b) Crocodile   c) Earthworm   d) Snail   e) Lizard

5. a) Chisel   b) Tools   c) Hammer   d) Screwdriver   e) Axe

6. a) Sitar   b) Violin   c) Sarod   d) Tanpura   e) Tabla

7. a) Sambhar   b) Baikal   c) Siachen   d) Chilka   e) Dal

8. a) Carrot   b) Potato   c) Ginger   d) Beetroot   e) Cabbage

9. a) Kidney   b) Liver   c) Heart   d) Tongue   e) Teeth

10. a) Atharveda   b) Ayurveda   c) Yajurveda   d)Rigveda   e)Samveda

Type –II: In each of the following questions, certain pairs of words are given, out of which the words in all the pairs except one, bear a certain common relationship. Choose the pair in which the words are differently related.

11. a) Cow: Buffalo   b) Cock: Hen   c) Horse: Mare

    d) Dog: Bitch   e) Peacock: Peahen
12. a) Ganga: Narmada   b) Thar: Gobi   c) Stomach: Hands

    d) Everest: Mountain   e) Coke: Sprite

13. a) Painter: Gallery   b) Actor: Stage   c) Mason: Wall

    d) Farmer: Field   e) Worker: factory

14. a) White: Dirty   b) Easy: Difficult   c) Brave: Coward

    d) End: Beginning   e) Truth: Lie

15. a) See: Eye   b) Hear: Ears   c) Smell: Nose

    d) Touch: Skin   e) Tongue: Taste

16. a) Bottle: Wine   b) Cup : Tea   c) Pitcher: Water

    d) Ball: Bat   e) Inkpot: Ink

17. a) Lion: Roar   b) Snake: Hiss   c) Frog: Bleat

   d) Bees: Hum   e) Birds: Chirp

18. a) Dim: Bright   b) Wrong: Right   c) Shallow: Deep

   d) Genuine: Real   e) Involvement: Indifference

19. a) Cat: Mouse   b) Lion: Deer   c) Cow: Hen

   d) Lizard: Mosquito   e) Hawk: Pigeon

20. a) Waist: Belt   b) Neck: Tie   c) Wrist: Band

   d) Shoe: Laces   e) Finger: Ring

Type III: Choose the number or odd numeral pair/group in each of the following questions.

21. a) 13   b) 17   c) 23   d) 63   e) 71

22. a) 25   b) 36   c) 78   d) 144   e) 196

23. a) 8   b) 28   c) 64   d) 125   e216

24. a) 579   b) 885   c) 696   d) 398   e) 489

25. a) 124   b) 235   c) 789   d) 345   e) 510

26. a) 3: 5   b) 5: 3   c) 6: 2   d) 7: 3

27. a) 1: 0   b) 3: 8   c) 6: 35   d) 7: 50

28. a) 22:3   b) 28: 4   c) 36: 5   d) 43: 6

29. a) 12:144   b) 13: 169   c) 15: 180   d) 16: 256

30. a) 23: 29   b) 19: 25   c) 13: 17   d) 3: 5

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MENTAL ABILITY TEST (MAT)-VII
ALPHABET TEST
BASIC CONCEPTS

Directory

- **Alphabetical Order**: Arranging words in alphabetical order implies 'to arrange them in the order as they appear in a dictionary', i.e. as per the order in which the beginning letters of these words appear in the English alphabet.

- **How to arrange the words in alphabetical order**?
  i)   First arrange according to the first letter.

  ii) If first letter is same of the given words, then consider second letter.

  iii) If both the first and second letters are same, then arrange the words considering their third letter and so on.

- After learning this section it will be easier for students to use dictionary, index sheets, etc.

Alphabetical Quibble

- In this type of question, generally a letter series is given, be it English alphabets from A to Z or a randomized sequence of letters.

- Students are required to trace the letters satisfying certain given conditions as regards their position in the given sequence or the sequence obtained by performing certain given operations on the given sequence.

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MENTAL ABILITY TEST (MAT)-VII
ALPHABET TEST
WORKSHEET-1

Name: _____   Class: _____   Date: _____

Type I: Directory

1. Arrange the words alphabetically and tick the one that comes second.
a**.** Explosion   b. Emergency   c. Ecstasy
d. Eager   e. Entomology

2. Which will be at 4th place if arranged alphabetically?
a. Wasp   b. Waste   c. War
d. Wrinkle   e. Wrist

3. In telephone directory, which of the following names will appear in the middle?
a. Sajewat   b. Segvan   c. Sajevar
d. Sajewet   e. Salwar

4. In a telephone directory which of the following names will appear in the middle?
a. Premjibhai   b. Premjeebhai   c. Premajeebhai
d. Premajibhai   e. Peremjibhai

5. Arrange the following words in a meaningful order:
1. Site   2.Plan   3.Rent   4. Money   5. Building
a. 23514   b. 41253   c. 12354   d. 34251

Directions (Q6-8): In each of the following questions, arrange the given words in the sequence in which they occur in the dictionary and then choose the correct sequence.

6. 1.Repoint   2. Reptile   3.Repent   4. Repute   5. Report
a. 31524   b. 35124   c. 51432   d. 54132

7. 1. Credential   2. Creed   3. Crease   4. Cremate   5. Credible
a. 12345   b. 15342   c. 51234   d. 31524

8. 1. Protein   2. Problem   3. Proverb   4. Property   5. Project
a. 12345   b. 21435   c. 25413   d. 34521

9. If the first five words in the sentence, "Meeta's mother meets me many times" are rearranged in the alphabetical order, which will be the middle word?
     a. Meeta   b. Mother   c. Meets   d. Me   e. Many

10. If the words in the sentence, "She showed several sample snaps" are rearranged in the alphabetical order, which will be the middle word?
     a. Snaps   b. Sample   c. Several   d. Showed   e. She

Type II: Alphabetical Quibble

Directions (Q 11-16): Answer the given questions based on the following English Alphabet. A B C D E F G H I J K L M N O P Q R S T U V W X Y Z

11. Which letter is exactly midway between G and Q in the given alphabet?

    a. K   b. L   c. M   d. N

12. Which letter in the alphabet is as far from G as T is from M?

    a. M   b. N   c. O   d. P

13. Which letter will be sixth to the left of the nineteenth letter from the right end of the alphabet?

    a. M   b. N   c. X   d. Y   e. None of these

14. Which letter is seventh to the right of the thirteenth letter from the left end?

    a. S   b. T   c. U   d. V   e. None of these

15. If the above alphabet is written in the reverse order, which will be the eighth letter to the right of O?

    a. F   b. G   c. V   d. W   e. None of these

16. If A interchanges position with B, similarly C and D interchange positions and so as E and F and so on up to Y and Z, then which of the following will be seventh from the left?

    a. A   b. F   c. I   d. None of these

Type III: Word Formation

Directions (Q 17-20): In each of the following questions, a word has been given, followed by four other words, one of which cannot be formed by using the letters of the given word. Find that word.

17. CONSTRUCTION

    a. SUCTION   b. COINS   c. CAUTION   d. NOTION

18. INTELLIGENCE

    a. TILLAGE   b. INCITE   c. GENTLE   d. NEGLECT

19. MIRACULOUS

    a. MOLAR   b. LOCUS   c. SOLACE   d. SCAR

20. TRANSFORM

    a. TRAIN   b. FORT   c. ROAM   d. RANSOM

****

MENTAL ABILITY TEST (MAT)-VII
ALPHABET TEST
WORKSHEET-2

Name: _____   Class: _____   Date: _____

Type I: Directory

1. Arrange them in alphabetical order, which will be at fourth place?
   a. Tenacious   b. Terminate   c. Temperature

   d. Temple   e. Tenant

2. Arrange the given words in alphabetical order and choose the one that comes first.
   a. Prominent   b. Prohibit   c. Promise

   d. Prolong   e. Programme

3. Which of the following names will appear in the middle if they are arranged alphabetically?
   a. Parakashji   b. Prakashji   c. Parakashjee

   d. Prakashje   e. Parkashji

4. Which one would be a meaningful order of the following?
   1. Mother   2. Child   3. Milk   4. Cry   5. Smile
   a. 3 2 1 5 4   b. 2 4 1 3 5   c. 1 5 2 4 3   d. 2 4 1 5 3

5. Arrange the following in a Meaningful order:
   1. Punishment   2. Prison   3. Arrest   4. Crime   5. Judgement
   a. 4 3 5 2 1   b. 4 3 5 1 2   c. 2 3 1 4 5   d. 5 1 2 3 4

Directions (Q6-8): In each of the following questions, arrange the given words in the sequence in which they occur in the dictionary and then choose the correct sequence.

6. 1. Brook   2. Bandit   3. Boisterous   4. Baffle   5. Bright
   a. 2 4 3 1 5   b. 2 4 3 5 1   c. 4 2 3 1 5   d. 4 2 3 5 1

7. 1. Wound   2. Writer   3. Whiter   4. Worst   5. Worked
   a. 1 4 3 5 2   b. 2 1 3 4 5   c. 3 5 4 1 2   d. 5 3 2 1 4

8. 1. Preach   2. Praise   3. Precinct   4. Precept   5. Precede
   a. 2 1 5 4 3   b. 2 1 3 4 5   c. 1 2 5 4 3   d. 2 5 1 4 3

9. 1. Select   2. Seldom   3. Send   4. Selfish   5. Seller
   a. 1 2 4 5 3   b. 2 1 5 4 3   c. 2 1 4 5 3   d. 2 5 4 1 3

10. 1. Eagle   2. Earth   3. Eager   4. Early   5. Each
    a. 1 5 2 4 3   b. 2 1 4 3 5   c. 2 3 5 4 1   d. 5 3 1 4 2

Type II: Alphabetical Quibble

Directions (Q 11-14): Answer the given questions based on the following English Alphabet.

A B C D E F G H I J K L M N O P Q R S T U V W X Y Z

11. Which letter is midway between the eighteenth letter from the left end and tenth letter from the right end of the given alphabet?
    a. No letter   b. K   c. Q   d. R   e. None of these

12. Which letter is sixteenth to the right of the letter which is fourth to the left of I ?
    a. S   b. T   c. U   d. V   e. Y

13. If the order of the English Alphabet is reversed, then which letter would be exactly in the middle?
    a. L   b. M   c. N   d. None of these

14. If only the first half of the given alphabet is reversed, how many letters will be there between K and R?
    a. 6   b. 10   c. 14   d. 16   e. None of these

15. If every alternate letter starting from B is deleted from the given alphabet which of the following will be the tenth letter from the right end?
    a. G   b. D   c. Q   d. H   e. None of these

16. Suppose the first and the second letters of the English alphabet changed places, also the third and the fourth, the fifth and the sixth, and so on. In the new alphabet thus formed which letter would be the 14th?
    a. H   b. K   c. L   d. M

17. If A interchanges position with B, similarly C and D interchange positions and so as E and F and so on upto Y and Z, then which of the following will be seventh from the left?
    a. A   b. F   c. I   d. None of these

18. In the following alphabets, which letter is eight to the right of the fourteenth letter from the right end?

    Z A B C D E F G H I J K L M N O P Q R S T U V W X Y

    a. H   b. R   c. S   d. T

Directions (Q 19-20): Study the following arrangement of the English alphabet and answer the questions given below:

F J M P O W R N B E Y C K A V L D G X U H Q I S Z T

19. Which letter is tenth to the right of the letter which is exactly the middle letter between F and D?
    a. D   b. G   c. H   d. U   e. None of these

20. Four of the following five are alike in a certain way based on their position in the above arrangement and hence form a group. Which one does not belong to that group?
    a. BRY   b. ECN   c. HXI   d. OMR   e. KYV

Type III: Word Formation

Directions (Q 21-26): In each of the following questions, a word has been given, followed by four other words, one of which cannot be formed by using the letters of the given word. Find that word.

21. OBSTETRICIAN
    a. SOBER   b. TERMITE   c. RETAIN   d. SIREN

22. QUESTIONNAIRE
    a. QUESTOR   b. QUEUE   c. QUINATE   d. QUERIES

23. PHARMACEUTICAL
    a. PRACTICE   b. METRIC   c. RHEUMATIC   d. CRITICAL

24. ADULTERATION
    a. RETURN   b. RELATION   c. RETAIL   d. TOILET

25. NATIONALISATION
    a. NOTATION   b. SALINATION   c. INSTALLATION   d. SANITATION

26. RECOMMENDATIONS
    a. NURSE   b. SOON   c. MEANT   d. RAINS

Directions (Q 27-30): In each of the following questions, if the letters of the given word are used as many times as one wants to use, then which one of the four given words (a), (b), (c) and (d) cannot be formed?

27. EVOLUTION
    a. VOLT   b. VALE   c. TOOL   d. LOOT

28. RAVENOUS
    a. NEVER   b. VENEER   c. ROVER   d. RIVER

29. FALLACIOUS
    a. FALLS   b. FAILS   c. FILLS   d. FILES

30. ELEMENTARY
    a. TERMER   b. MEANLY   c. LUMEN   d. LAMENT

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O. P. JINDAL SCHOOL, RAIGARH (CG) 496 001

MENTAL ABILITY TEST (MAT)-VII
ALPHA-NUMERIC SEQUENCE PUZZLE
BASIC CONCEPTS

1. **Alphanumeric** is a combination of alphabetic and numeric characters.
2. In this type of questions, a jumbled sequence of some letters, numbers and symbols is given, followed by certain questions based on it.
3. Students have to study the given terms be it letters, numbers or symbols in relation to their location in the given sequence, and not as per their status in English alphabet or Indian number system.
4. This topic will enhance students' understanding of the placing of elements in the certain given order and trace the required element as per the instructions given in the question.
5. After learning this topic, student's understanding of terms precede, follow, followed by, middle, end, etc. will be enhanced.

For eg.

Directions (Questions 1-3): Study the following arrangement carefully and answer the questions given below:

R E 5 D A P $ 3 T I Q 7 9 B # 2 K % U 1 M W 4 * J 8 N

1. Which of the following is exactly in the middle between 3 and 1 in the above arrangement?
   a. B   b. K   c. 9   d. #   e. None of these

   Ans: b (there are 11 elements between 3 and 1. So the middle letter will be sixth one).

2. How many such vowels are there in the above arrangement, each of which is immediately followed by a number but not immediately preceded by a consonant?
   a. None   b. One   c. Two   d. Three   e. Four

   Ans: b

3. Which of the following is seventh to the left of the sixteenth from the left in the above arrangement?
   a. A   b. U   c. 4   d. T   e. None of these

   Ans: d (sixteenth element from left is 2, and the element 7 steps to the left of 2 is T)

MENTAL ABILITY TEST (MAT)-VII
ALPHA-NUMERIC SEQUENCE PUZZLE
WORKSHEET-1

Name: _____   Class: _____   Date: _____

Directions (Questions 1-3): Study the following arrangement of symbols, letters and numbers carefully and answer the questions given below:

8 C M @ N £ T 2 Y 6 S a Q $ 7 * W # Z 3 U E % A 4

1. How many symbols are there each of which is immediately preceded and also immediately followed by a vowel?
   a. Nil   b. One   c. Two   d. Three   e. More than three

2. How many symbols are there each of which is immediately preceded by a number and followed by a letter?
   a. One   b. Two   c. Four   d. Nil   e. More than four

3. How many letters are there each of which is preceded by number and followed by a letter?

   a. One   b. Two   c. Three   d. Four   e. None

Directions (4-8): Study the following arrangement carefully and answer the questions given below:

F 8 E 7 S 9 A Q 2 K M Z $ 6 % * V L 8 @ W 4 B 3 5 # U C

4. How many such odd numbers are there in the above arrangement each of which is immediately preceded by a consonant?
   a. None   b. One   c. Two   d. Three   e. None of these

5. How many such symbols are there in the above arrangement each of which is immediately preceded by a number and also immediately followed by a letter?
   a. None   b. One   c. Two   d. Three   e. None of these

6. If all the letters are dropped from the above arrangement, which of the following will be the tenth from the right end?
   a. $ b. 6   c. 2   d. 9   e. None of these

7. Which of the following is seventh to the right of the twenty-first from the right end of the above arrangement?
   a. 6   b. $ c. *   d. %   e. None of these

8. Four of the following five are alike in a certain way and so form a group. Which is the one that does not belong to that group?
   a. E 9 Q   b. A K Z   c. M 6$ d. 8 4 3   e. B # C

Directions (9-11): Study the following digit-letter-symbol sequence carefully and answer the questions given below:
R * T J L 2 $ D = M # 8 C % B < K 1 & A W ? P E + Q @ 7 F 6

9. How many such numbers are there in the above sequence, each of which is immediately preceded by a consonant and immediately followed by a symbol?

   a. Nil   b. One   c. Three   d. Four   e. None of these

10. Which of the following is sixth to the left of eighteenth element from the left?
    a. %   b. C   c. 1   d. 8   e. None of these

11. If the above sequence is written in reverse order then which of the following will be sixth to the right of sixteenth element from the right end?
    a. M   b. A   c. B   d.?   e. None of these

12. Answer the question based on the following arrangement

    Y W @ 1 & C N 3 P L B 9 ↑ = D * E 2 £ M V $ 7 # 4 F G 5

    How many such symbols are there in the above arrangement which are not immediately preceded by a number and also not immediately followed by a letter?

    a. Nil   b. One   c. Two   d. Three   e. None of these

Directions (13-15): Answer the following question based on the following arrangement

3 D K $ P 2 7 # @ 4 J T H 9 * F M R 1 5 % ? 6 8

13. How many such numerals are there in the above arrangement which are immediately followed by a symbol and also immediately preceded by a letter?

    a. None   b. Three   c. Two   d. One   e. None of these

14. What will come in place of question mark (?) in the following series based on the above arrangement?
             KPD   7@2?   *M9

    a. 4T@   b. JH@   c. 4T#   d. JH4   e. None of these

15. How many such symbols are there in the above arrangement which are immediately followed by a letter but not immediately preceded by a letter?

    a. One   b. Two   c. Three   d. Nil   e. None of these

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MENTAL ABILITY TEST (MAT)-VII
ALPHA-NUMERIC SEQUENCE PUZZLE
WORKSHEET-2

Name: _____ Class: _____ Date: _____

Directions (1-5): Study the following arrangement carefully and answer the questions given below:

W 1 R % 4 J E # 7 M T 2 I 9 B H 3 A $ 9 F Q 5 D G 6 U S P

1. Which of the following is the seventh to the right of the eighteenth letter from the right end?
    a. A   b. E   c. $ d. #   e. None of these

2. If the order of the last fifteen elements is reversed, which of the following will be fifth to the right of twelfth from the left end?
    a. U   b. $ c. 3   d. 6   e. None of these

3. Four of the following are alike in a certain way on the basis of above arrangement and hence form a group. Which one does not belong to that group?
    a. R W 4   b. 5 F G   c. 9 Q A   d. 3 B $ e. 7 E T

4. If the positions of E and A are interchanged and similarly the positions of R and U are interchanged then how many symbols will be there each of which is either preceded or followed by a vowel?
    a. None   b. One   c. Two   d. Three   e. Four

5. What should come in place of question mark on the basis of the above arrangement?
    R 4 #   M 2 B   3 $ Q   ?
    a. 5 G U   b. D 6 S   c. 5 G S   d. D 6 P   e. None of these

Directions (6-8): Study the following arrangement carefully and answer the questions given below:

A B 7 C D 9 Z Y * P 2 M © K S 3 ↑ 5 N T @

6. Which of the following letters is exactly midway between only letters falling between C and 5?
    a. K   b. M   c. P   d. Y   e. None of these

7. If the first element from the left interchanges place with the tenth element from the left, similarly second with ninth, third with eight, fourth with seventh and so on, then which of the following will be seventh to the left of eighth element from the right?
    a. C   b. D   c. 7   d. 9   e. None of these

8. How many such digits are there in the sequence each of which is immediately preceded as well as followed by a letter?
    a. Nil   b. One   c. Two   d. Three   e. None of these

Directions (9-11): Study the following arrangement carefully and answer the questions given below:

↑ 9 B Q = $ 2 5 R J ∂ L 3 @ Y M E 6 8 * ÷ D F 4 β H 7 ©

9. How many such numbers are there in the arrangement each of which is immediately preceded by a symbol but not immediately followed by a letter?
    a. Nil   b. One   c. Two   d. Three   e. None of these

10. Four of the following five are alike in a certain way based on the positions of the elements in the above arrangement and hence form a group. Which one does not belong to the group?

   a. * ÷ 8 D 6   b. Y M @ E 3   c. @ Y 3 M L   d. β H 4 7 D   e. B Q 9 = ↑

11. How many such letters are there in the arrangement each of which is immediately followed by a number but not immediately preceded by a symbol?
   a. Nil   b. One   c. Two   d. Three   e. Four

Directions (12-15): Study the following arrangement carefully and answer the questions given below:

M 1 E $ R B 3 A K 7 £ # 9 $ U D I N 4 6 % F H 2 @ 8 W

12. How many such consonants are there in the above sequence each of which is immediately followed by a number and immediately preceded by a vowel?
   a. Nil   b. One   c. Two   d. Three   e. Four

13. Four of the following five are alike in a certain way and so form a group, based on the above arrangement. Which is the one that does not belong to that group?
   a. % H N   b. I 4 $ c. 9 D £   d. 3 K $ e. $ B M

14. How many such vowels are there in the above arrangement, each of which is immediately preceded by a symbol and immediately followed by a consonant?
   a. Nil   b. One   c. Two   d. Three   e. None of these

15. Which of the following is exactly in the midway in the above arrangement?
   a. #   b. 9   c. U   d. D   e. $

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MENTAL ABILITY TEST (MAT)-VII
ORDERING, RANKING & TIME SEQUENCE TEST
BASIC CONCEPTS

Type I: Number Test

1. In this type of questions, a set, group or series of numbers is given and the student is asked to trace out numbers following the given conditions.
2. Numbers lying at specific mentioned positions after shuffling according to a given pattern may also be asked.

Eg: In the given series, how many 8's are there each of which is exactly divisible by its immediate preceding as well as succeeding numbers?

`   2 8 3 8 2 4 8 2 4 8 6 8 2 8 2 4 8 3 8 2 8 6

    a. One   b. Two   c. Three   d. Four   e. None of these

Ans: b- Explanation: 2 8 3 8 2 **4 8 2** 4 8 6 8 **2 8 2** 4 8 3 8 2 8 6

Type II: Ranking Test

1. Ranking related questions includes the rank of the person from the top, from the bottom and the total number of persons.
2. Out of the above three information, any information may be missing and students are asked the same.

Eg: Rohan ranks seventh from the top and twenty-sixth from the bottom in a class. How many students are there in the class?

a. 31   b. 32   c. 33   d. 34   e. 35

Ans: b- Explanation: 6 students before Rohan+Rohan+25 after Rohan= 32

Type III: Time Sequence Test

1. In this type of questions, certain information regarding a particular date or time is given and students are required to find out that exact date or time.

Eg: Nitin correctly remembers that Nidhi's birthday is before Friday but after Tuesday. Dheeraj correctly remembers that Nidhi's birthday is after Wednesday but before Saturday. On which of the following days does Nidhi's birthday definitely fall?

    a. Monday   b. Tuesday   c. Wednesday   d. Thursday

Ans: d- Explanation: According to Nitin, Nidhi's birthday falls on Wednesday or Thursday   ---------(i)
According to Dheeraj, Nidhi's birthday falls on Thursday or Friday--------- (ii)
From (i) and (ii), Nidhi's birthday falls on Thursday.

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MENTAL ABILITY TEST (MAT)-VII
ORDERING, RANKING & TIME SEQUENCE TEST
WORKSHEET-1

Name: _____ Class: _____ Date: _____

Type I: Number Test

1. Which is the third number to the left of the number which is exactly in the middle of the following sequence of numbers?

    1 2 3 4 5 6 7 8 9 2 4 6 8 9 7 5 3 1 9 8 7 6 5 4 3 2 1

         a. 3   b. 4   c. 5   d. 6   e. 7

2. How many 5's are there in the following number sequence which are immediately preceded by 7 and immediately followed by 6?

    7 5 5 9 4 5 7 6 4 5 9 8 7 5 6 7 6 4 3 2 5 6 7 8

         a. One   b. Two   c. Three   d. Four   e. Five

3. How many 7's immediately preceded by 6 but not immediately followed by 4 are there in the following series?
    7 4 2 7 6 4 3 6 7 5 3 5 7 8 4 3 7 6 7 2 4 0 6 7 4 3

         a. One   b. Two   c. Four   d. Six   e. Nil

4. In the series given below, count the number of 9's, each of which is not immediately preceded by 5 but is immediately followed by either 2 or 3. How many such 9's are there?

    1 9 2 6 5 9 3 8 3 9 3 2 5 9 2 9 3 4 8 2 6 9 8

         a. One   b. Three   c. Five   d. Six   e. Nil

5. How many 4's are there preceded by 7 but not followed by 3?

    5 9 3 2 1 7 4 2 6 9 7 4 6 1 3 2 8 7 4 1 3 8 3 2 5 6 7 4 3 9 5 8 2 0 1 8 7 4 6 3

         a. Three   b. Four   c. Five   d. Six   e. Nil

6. How many 7's are there in the following series which are preceded by 6 which is not preceded by 8?

    8 7 6 7 8 6 7 5 6 7 9 7 6 1 6 7 7 6 8 8 6 9 7 6 8 7

         a. Nil   b. One   c. Two   d. Three   e. None of these

7. In the following series of numbers, find out how many times, 1, 3 and 7 have appeared together, 7 being in the middle and 1 and 3 on either side of 7?

    2 9 7 3 1 7 3 7 7 1 3 3 1 7 3 8 5 7 1 3 7 7 1 7 3 9 0 6

         a. 3   b. 4   c. 5   d. More than 5   e. None of these

Type II: Ranking Test

8. Sam ranked ninth from the top and thirty-eighth from the bottom in a class. How many students are there in the class?
     a. 45   b. 46   c. 47   d. 48   e. None of these

9. In a row of boys, Jeevan is seventh from the start and eleventh from the end. In another row of boys, Vikas is tenth from the start and twelfth from the end. How many boys are there in both the rows together?
     a. 36   b. 37   c. 39   d. Can't be determined   e. None of these

10. Rajan is sixth from the left end and Vinay is tenth from the right end in a row of boys. If there are 8 boys between Rajan and Vinay, how many boys are there in the row?
     a. 23   b. 24   c. 25   d. 26   e. None of these

11. If Anita is taller than Surjit but shorter than Kusum and Surjit is just as tall as Kalpana but taller than Vanita, then Kalpana is:
     a. just as tall as Anita   b. taller than Kusum   c. shorter than Anita

     d. shorter than Surjit   e. shorter than Vanita

Type III: Time Sequence Test

12. Satish remembers that his brother's birthday is after fifteenth but before eighteenth of February whereas his sister Kajal remembers that her brother's birthday is after sixteenth but before nineteenth of February. On which day in February is Satish's brother's birthday?
     a. 16th b. 17th c. 18th d. 19th e. None of these

13. A bus for Delhi leaves every thirty minutes from a bus stand. An enquiry clerk told a passenger that the bus had already left ten minutes ago and the next bus will leave at 9:35 a.m. At what time did the enquiry clerk gave the information to the passenger?
     a. 9.10 a.m.   b. 8.55 a.m.   c. 9.08 a.m.   d. 9.05 a.m.   e. 9.15 a. m

14. Kailash remembers that his brother Deepak's birthday falls after 20th May but before 28th May, while Geeta remembers that Deepak's birthday falls before 22nd May but after 12th May. On what date Deepak's birthday falls?
     a. 20th   b. 21st c. 22nd d. Can't be determined   e. None of these

15. Standing on a platform, Amit told Sunita that Aligarh was more than 10 kms but less than 15 kms from there. Sunita knew that it was more than 12 but less than 14 kms from there. If both of them were correct, which of the following could be the distance of Aligarh from the platform?
     a. 11km   b. 12km   c. 13km   d. 14km   e. 15km

16. Ashish leaves his house at 20 minutes to seven in the morning, reaches Kunal's house in 25 minutes, they finish their breakfast in another 15 minutes and leave for their office which takes another 35 minutes. At what time do they leave Kunal's house to reach their office?
     a. 7.40 a.m.   b. 7.20 a.m.   c. 7.45 a.m.   d. 8.15 a.m.   e. 7.55 a.m.

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MENTAL ABILITY TEST (MAT)-VII
ORDERING, RANKING & TIME SEQUENCE TEST
WORKSHEET-2

Type I: Number Test

1. In the following list of numerals, how many 2's are there each of which is followed by 1 but not preceded by 4?

   4 2 1 2 1 4 2 1 1 2 4 4 4 1 2 2 1 2 1 4 4 2 1 4 2 1 2 1 2 4 1 4 2 1 2 4 1 4 6

      a. Two   b. Three   c. Four   d. Five   e. None

2. How many 3's are there in the following sequence which are neither preceded by 6 nor immediately followed by 9?

   9 3 6 6 3 9 5 9 3 7 8 9 1 6 3 9 6 3 9

      a. One   b. Two   c. Three   d. Four   e. None of these

3. Count each 1 in the following sequence of numbers that is immediately followed by 2, but 2 is not immediately followed by 3. How many such 1's are there?

   1 2 1 3 4 5 1 2 3 5 2 1 2 6 1 4 5 1 1 2 4 1 2 3 2 1 7 5 2 1 2 5

      a. 2   b. 4   c. 5   d. 7   e. 9

Directions (Q 4-5): Study the number series given below and answers the questions that follow.

7 8 9 7 6 5 3 4 2 8 9 7 2 4 5 9 2 9 7 6 4 7

4. How many 7's are preceded by 9 and followed by 6?
      a. 2   b. 3   c. 4   d. 5   e. None of these

5. Which figures have equal frequency?
      a. 2,5,3   b. 2,4,5   c. 3,7,5   d. 8,6,5   e. None of these

Directions (Q 6-8): Study the number series given below and answers the questions that follow.

5 1 4 7 3 9 8 5 7 2 6 3 1 5 8 6 3 8 5 2 2 4 3 4 9 6

6. How many odd numbers are there in the sequence each of which is immediately followed by an odd number?
      a. 1   b. 2   c. 3   d. 4   e. More than 4

7. How many even numbers are there in the sequence which are immediately preceded by an odd number but immediately followed by an even number?
      a. 1   b. 2   c. 3   d. 4   e. More than 4

8. How many odd numbers are there in the sequence which are immediately preceded and also immediately followed by an even number?

      a. 1   b. 2   c. 3   d. 4   e. More than 4

9. How many 8's are there in the following number series each of which is exactly divisible by its immediately preceding and also divisible by immediately following numbers?

8 2 4 5 1 7 2 8 4 8 4 2 2 8 2 6 9 8 4 5 4 8 3 2 8 4 3 1 8 3

    a. 1   b. 2   c. 3   d. 4   e. None of these

10. A number is greater than 3 but less than 8. Also, it is greater than 6 but less than 10. The number is?
    a. 5   b. 6   c. 7   d. 8   e. 9

Type II: Ranking Test

11. A class of boys stands in a single line. One boy is nineteenth in order from both the ends. How many boys are there in the class?
    a. 27   b. 37   c. 38   d. 39   e. 40

12. If Atul finds that he is twelfth from the right in a line of boys and fourth from the left, how many boys are there in the line?
    a. 12   b. 13   c. 14   d. 15   e. None of these

13. Nitin ranks eighteenth in a class of 49 students. What is his rank from the last?
    a. 18   b. 19   c. 31   d. 32   e. None of these

14. Manoj and Sachin are ranked seventh and eleventh respectively from the top in a class of 31 students. What will be their respective ranks from the bottom in the class?
    a. 20th & 24th b. 24th & 20th c. 25th & 21st d. 26th & 22nd

15. Raman is sixth from the left end and Vineet is tenth from the right end in a row of boys. If there are ten boys between Raman and Vineet, how many boys are there in the row?
    a. 23   b. 24   c. 25   d. 26   e. None of these

16. Some boys are sitting in a row. P is sitting fourteenth from the left and Q is seventh from the right. If there are four boys between P and Q, how many boys are there in the row?
    a. 25   b. 23   c. 21   d. 19   e. None of these

17. A class of boys stands in a single line, one boy is 19th in order from both the ends, how many boys are there in the class?
    a. 37   b. 39   c. 27   d. 38   e. None of these

18. In a row of thirty boys, R is fourth from the right end and W is tenth from the left end. How many boys are there between R and W?
    a. 15   b. 16   c. 17   d. 18   e. Can't be determined

19. Murugan ranked ninth from the top and thirty eighth from the bottom in a class. How many students are there in the class?
    a. 44   b. 45   c. 46   d. 47   e. None of these

20. In a class of 50 students M is eighth from top. H is 20th from bottom. How many students are there between M and H?
    a. 22   b. 23   c. 24   d. 25   e. Can't be determined

Type III: Time Sequence Test

21. Sangeeta remembers that her father's birthday was certainly after eighth but before thirteenth of December. Her sister Natasha remembers that their father's birthday was definitely after ninth but before fourteenth of December. On which date was their father's birthday?

    a. 10th b. 11th c. 12th d. Data inadequate

22. Ajay left home for the bus stop 15minutes earlier than usual. It takes 10 minutes to reach the stop. He reached the stop at 8:40 a.m. What time does he usually leave home for the bus stop?

    a. 8:30a.m.   b. 8:45p.m.   c. 8:55a.m.   d. None of these

23. The priest told the devotee, "The temple bell is rung at regular intervals of 45 minutes. The last bell was rung 5 minutes ago. The next bell is due to be rung at 7:45a.m." At what time did the priest give this information to the devotee?

    a. 7:40a.m.   b. 7:05 a.m.   c. 7:00 a.m.   d. 6:55a.m.

24. How many days will be there from 26th January 2008, to 15th may 2008(both days are included)?

    a. 111   b. 112   c. 110   d. 113

25. If the day before yesterday was Thursday, when will Sunday be?

    a. Tomorrow   b. Today   c. Day after tomorrow d. None

26. If day after tomorrow is Saturday, what day was 3 days before yesterday?

    a. Monday   b. Sunday   c. Tuesday   d. Thursday

27. If the day before yesterday was Saturday, what day will fall on the day after tomorrow?

    a. Friday   b. Thursday   c. Wednesday   d. Tuesday

28. If the 3rd day of a month is Tuesday, which of the following would be 23rd day of that month?

    a. Tuesday   b. Monday   c. Wednesday   d. Sunday

29. Nitin correctly remembers that Nidhi's birthday is before Friday but after Tuesday. Dheeraj correctly remembers that Nidhi's birthday is after Wednesday but before Saturday. On which of the following days does Nidhi's birthday definitely fall?

    a. Monday   b. Tuesday   c. Wednesday   d. Thursday

30. If Tuesday falls on 4th of month, then which day will fall three days after the 24th?

    a. Monday   b. Tuesday   c. Friday   d. Thursday

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MENTAL ABILITY TEST (MAT)-VII
LOGICAL SEQUENCE OF WORDS
BASIC CONCEPTS

1. In this type of questions, certain interrelated words are given and numbered, followed by various sequences of the numbers denoting them, as alternatives.

2. Students are required to arrange these words in a logical sequence based on a common property and then choose the correctly numbered sequence from the given alternatives.

3. In other words, in this type of question, some words are given. You have to arrange these words in a meaningful order. The order may be according to age, size and need etc.

4. You have to arrange them in the order/sequence they occur/happen in real life.

For eg.

1. Arrange the following in a logical/meaningful sequence:

   1. Birth   2. Death   3. Funeral   4. Marriage   5. Education

   a. 1,3,4,5,2   b. 1,5,4,2,3   c. 2,3,4,5,1   d. 4,5,3,1,2

   Ans. B
   Explanation: The given words has to be arranged in the order of various events as they occur in a man's life.

2. Arrange the following in a logical/meaningful sequence:

   1. Consultation   2. Illness   3. Doctor   4. Treatment   5. Recovery

   a. 2,3,1,4,5   b. 2,3,4,1,5   c. 4,3,1,2,5   d. 5,1,4,3,2

   Ans. A

   Explanation: **Illness** occurs first. One then goes to a **doctor** and after **consultation** undergoes **treatment** to finally attain **recovery**.

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MENTAL ABILITY TEST (MAT) -VII
LOGICAL SEQUENCE OF WORDS
WORKSHEET-1

Name: _____   **Class: _____**   **Date: _____**

Directions: In each of the following questions, arrange the given words in a meaningful sequence and then choose the most appropriate sequence from amongst the alternatives provided below each question.

1) **1. Family**   **2. Community**   **3. Member**   **4. Locality**   **5. Country**
   a. 3 1 2 4 5   b. 3 1 2 5 4   c. 3 1 4 2 5   d. 3 1 4 5 2

2) **1. Shoulder**   **2. Wrist**   **3. Elbow**   **4. Palm**   **5. Finger**
   a. 2 4 5 3 1   b. 3 1 4 2 5   c. 3 4 5 2 1   d. 5 4 2 3 1

3) **1.Gold**   **2. Iron**   **3. Sand**   **4. Platinum**   **5.Diamond**
   a. 2 4 3 5 1   b. 3 2 1 5 4   c. 4 5 1 3 2   d. 5 4 3 2 1

4) **1.Phrase**   **2. Letter**   **3. Word**   **4. Sentence**
   a. 1 2 3 4   b. 1 3 2 4   c. 2 3 1 4   d. 2 3 4 1

5) **1.Frog**   **2. Eagle**   **3. Grasshopper** **4. Snake**   **5. Grass**
   a. 1 3 5 2 4   b. 3 4 2 5 1   c. 5 3 1 4 2   d. 5 3 4 2 1

6) **1.Honey**   **2. Flower**   **3. Bee**   **4. Wax**
   a. 1 3 4 2   b. 2 1 4 3   c. 2 3 1 4   d. 4 3 2 1

7) **1.Sentence**   **2. Chapter**   **3. Letter**   **4. Book**   **5. Word**   **6. Paragraph**
   a. 4 2 1 6 5 3   b. 4 2 6 1 5 3   c. 4 6 1 2 3 5   d. 4 6 2 5 1 3

8) **1.Cut**   **2. Put on**   **3. Mark**   **4. Measure**   **5. Tailor**
   a. 1 3 2 4 5   b. 2 4 3 1 5   c. 3 1 5 4 2   d. 4 3 1 5 2

9) **1.Police**   **2. Punishment**   **3. Crime**   **4.Justice**   **5.Judgement**
   a. 1 2 3 4 5   b. 3 1 2 4 5   c. 3 1 4 5 2   d. 5 4 3 2 1

10) **1.Country**   **2. Furniture**   **3. Forest**   **4. Wood**   **5. Trees**
   a. 1 3 5 4 2   b. 1 4 3 2 5   c. 2 4 3 1 5   d. 5 2 3 1 4

11) **1.Elephant**   **2. Cat**   **3. Mosquito**   **4. Tiger**   **5. Whale**
   a. 1 3 5 4 2   b. 2 5 1 4 3   c. 3 2 4 1 5   d. 5 3 1 2 4

12) **1.Key**   **2. Door**   **3. Lock**   **4. Room**   **5.Switch on**
   a. 1 2 3 5 4   b. 1 3 2 4 5   c. 4 2 1 5 3   d. 5 1 2 4 3

13) **1.Leaf**   **2. Fruit**   **3. Stem**   **4. Root**   **5. Flower**
   a. 3 4 5 1 2   b. 4 1 3 5 2   c. 4 3 1 2 5   d. 4 3 1 5 2

14) **1.Rajasthan**   **2. Universe**   **3. Ajmer**   **4. World**   **5. India**
   a. 1 5 3 2 4   b. 2 1 3 5 4   c. 3 1 5 4 2   d. 5 4 2 1 3

15) **1.Post-box**   **2. Letter**   **3. Envelope**   **4.Delivery**   **5.Clearance**
   a. 2 3 1 4 5   b. 3 2 1 4 5   c. 3 2 1 5 4   d. 3 2 4 5 1

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MENTAL ABILITY TEST (MAT) -VII
LOGICAL SEQUENCE OF WORDS
WORKSHEET-2

Name: _____   **Class:** _____   **Date:** _____

Directions: In each of the following questions, arrange the given words in a meaningful sequence and then choose the most appropriate sequence from amongst the alternatives provided below each question.

1. 1. Curd   2. Grass   3. Butter   4. Milk   5. Cow
    a. 2 5 4 3 1   b. 4 2 5 3 1   c. 5 2 3 4 1   d. 5 2 4 1 3

2. 1. Foetus   2. Child   3. Baby   4. Adult   5. Youth
    a. 1 2 4 3 5   b. 1 3 2 5 4   c. 2 3 5 4 1   d. 5 4 2 3 1

3. 1. Heel   2. Shoulder   3. Skull   4. Neck   5. Knee
    6. Chest   7. Thigh   8. Stomach   9. Face   10. Hand
    a. 2,4,7,1 0,1,5,8,9,6,3   b. 3, 4,7,9,2,5,8,10,6,1
    c. 4,7,10,1,9,6,3,2,5,8   d. 3,9,4,2,10,6,8,7,5,1

4. 1. Butterfly   2. Cocoon   3. Egg   4. Worm
    a. 1 3 4 2   b. 1 4 3 2   c. 2 4 1 3   d. 3 4 2 1

5. 1. Rainbow   2. Rain   3. Sun   4. Happy   5. Child
    a. 2 1 4 3 5   b. 2 3 1 5 4   c. 4 2 3 5 1   d. 4 5 1 2 3

6. 1. Yarn   2. Plant   3. Sari   4. Cotton   5. Cloth
    a. 2 4 1 5 3   b. 2 4 3 5 1   c. 2 4 5 1 3   d. 2 4 5 3 1

7. 1. Study   2. Job   3. Exam   4. Earn   5. Apply
    a. 1 3 2 5 4   b. 1 2 3 4 5   c. 1 3 5 2 4   d. 1 3 5 4 2

8. 1.Rain   2.Monsoon   3.Rescue   4.Flood   5.Shelter   6.Relief
    a. 1 2 3 4 5 6   b. 1 2 4 5 3 6   c. 2 1 4 3 5 6   d. 4 1 2 3 5 6

9. 1.Windows   2.Walls   3.Floor   4.Foundation   5.Roof   6.Room
    a. 4 1 5 6 2 3   b. 4 2 1 5 3 6   c. 4 3 5 6 2 1   d.4 5 3 2 1 6

10. 1. District   2. Village   3. State   4. Town   5. City
    a. 2 4 1 5 3   b. 2 1 4 5 3   c. 5 3 2 1 4   d. 2 5 3 4 1

11. 1. Cutting   2. Dish   3. Vegetable   4. Market   5. Cooking
    a. 1 2 4 5 3   b. 3 2 5 1 4   c. 4 3 1 5 2   d. 5 3 2 1 4

12. 1. Table   2. Tree   3. Wood   4. Seed   5. Plant
    a. 1 2 3 4 5   b. 1 3 2 4 5   c. 4 5 2 3 1   d. 4 5 3 2 1

13. 1. Doctor   2. Fever   3. Prescribe   4. Diagnose   5. Medicine
    a.   1 4 3 2 5   b. 2 1 3 4 5   c. 2 1 4 3 5   d. 2 4 3 5 1

14. 1. Income   2. Status   3. Education   4. Well-being   5. Job
    a.   1 2 5 3 4   b. 1 3 2 5 4   c. 3 1 5 2 4   d. 3 5 1 2 4

15. 1. Patient   2. Diagnosis   3. Bill   4. Doctor   5. Treatment
    a.   1 4 2 3 5   b. 1 4 3 2 5   c. 1 4 2 5 3   d. 4 1 2 3 5

16. 1. Milky way   2. Sun   3. Moon   4. Earth   5. Stars
    a.   1 4 3 2 5   b. 2 3 4 5 1   c. 3 4 2 5 1   d. 4 3 2 5 1

17. 1. Sea   2. Rivulet   3. Ocean   4. River   5. Glacier
    a.   5 2 1 3 4   b. 5 2 4 1 3   c. 5 4 2 3 1   d. 5 4 3 2 1

18. 1. Probation   2. Interview   3. Selection
    4. Appointment   5. Advertisement   6. Application
    a. 5 6 2 3 4 1   b. 5 6 3 2 4 1   c. 5 6 4 2 3 1   d. 6 5 4 2 3 1

19. Which would be the proper order of the following in ascending order?
    1.   Trillion   2. Thousand   3. Billion   4. Hundred   5. Million
    a.   1 2 4 3 5   b. 1 5 3 2 4   c. 4 2 3 5 1   d. 4 2 5 3 1

20. Which of the following number sequences represents a correct sequence from a part to the whole?
    1.   Caste   2. Family   3. Newly married couple   4. Clan   5. Species
    a.   2 3 1 4 5   b. 3 2 1 4 5   c. 3 4 5 1 2   d. 4 5 3 2 1

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MENTAL ABILITY TEST (MAT) -VII
MATHEMATICAL OPERATIONS
BASIC CONCEPTS

1. This topic deals with questions on simple mathematical operations.
2. Here, the four fundamental operations – addition, subtraction, multiplication and division are represented by symbols different from the usual ones.
3. The questions involving these operations are set using artificial symbols. The student has to substitute the real signs and solve the questions accordingly, to get the answer.
4. While solving a mathematical expression, proceed according to the rule BODMAS- i.e. **B**rackets, **O**f, **D**ivision, **M**ultiplication, **A**ddition, and **S**ubtraction.

Type I: Problem solving by substitution

In this type, you are provided with substitutes for various mathematical symbols or numerals, followed by a question involving calculation of an expression.

The student is required to put in the real signs or numerals in the given equation and then solve the questions as required.

For e.g.-If '+' means 'minus', '×' means 'divided by', '÷' means 'plus' and '-' means 'multiplied by', then which of the following will be value of the expression **252×9-5+32÷92** ?

a. 95   b. 168   c. 192   d. 200   e. None of these

Ans: d **Explanation:** Putting the proper signs in the given expression, we get:

252÷9×5-32+92 **=** 28×5-32+92 **=** 140-32+92 **=** 232-32 **=** 200.

Type II: Interchange of signs and numbers.

In this type, interchanges are made in signs and numbers.

The student is required to make the interchanges in signs and numerals and then solve the question or choose the correct/incorrect equation.

Students may also be asked to choose the appropriate interchanges to make given expression correct.

For e.g.-If the given interchanges namely: signs + & ÷ and numbers 2 & 4 are made in signs and numbers, which one of the following four equations would be correct?

a. 2+4÷3=3   b. 4+2÷6=1.5   c. 4÷2+3=4   d. 2+4÷6=8

Ans. D-**Explanation:** Interchanging (+ & ÷) and (2 & 4), we get

a. 4÷2+3 = 3 or 5 = 3, which is false.   b. 2÷4+6 = 1.5 or 6.5 = 1.5, which is false.

c. 2+4÷3 = 4 or $\overline{}$ = 4, which is false.   d. 4÷2+6 = 8 or 8 = 8, which is true.

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MENTAL ABILITY TEST (MAT)-VII
MATHEMATICAL OPERATIONS
WORKSHEET-1

Name: _____   Class: _____   Date: _____

Type I: Problem solving by substitution

1. If '<' means 'minus', '>' means 'plus', '=' means 'multiplied by' and '$' means 'divided by', then what would be the value of 27 > 81 $ 9 < 6 ?
    a. 6   b. 33   c. 36   d. 54   e. None of these

2. If '+' means 'divided by', '-' means 'added to', '×' means 'subtracted from' and '÷' means 'multiplied by', then what is the value of 24 ÷ 12 – 18 + 9 ?
    a. -25   b. 0.72   c. 15.30   d. 290   e. None of these

3. If $ means +, # means -, @ means × and * means ÷, then what is the value of:
    16 $ 4 @ 5 # 72 * 8 ?
    a. 25   b. 27   c. 29   d. 36   e. None of these

4. If + stands for ×, - for ÷, ×for – and ÷ for +, find the value of 26 +74 - 4 × 5 ÷ 2.
    a. 220   b. 376   c. 478   d. 488

5. If Q means 'add to', J means 'multiplied by', T means 'subtract from', and K means 'divide by', then 30 K 2 Q 3 J 6 T 5 = ?
    a. 18   b. 28   c. 31   d. 103   e. None of these

6. If ÷ means ×, × means +, + means – and – means ÷, find the value of 16 × 3 + 5 − 2 ÷ 4.
    a. 9   b. 10   c. 19   d. 20   e. None of these

7. If + means ÷, ÷ means -, - means × and × means +, then 12 + 6 ÷ 3 – 2 × 8 =?
    a. -2   b. 2   c. 4   d. 8   e. 10

8. If + means -, - means ×, ÷ means + and × means ÷, then 15 – 3 + 10 × 5 ÷ 5 =?
    a. 5   b. 22   c. 48   d. 52   e. None of these

9. If P denotes ÷, Q denotes ×, R denotes + and S denotes -, then what is the value of
    18 Q 12 P 4 R 5 S 6?
    a. 53   b. 59   c. 63   d. 65   e. 70

10. If P means 'division', T means 'addition', M means 'subtraction' and D means 'multiplication', then what will be the value of the expression 12 M 12 D 28 P 7 T 15?
    a. -30   b. -15   c. 15   d. 45   e. None of these

11. If × means ÷, - means ×, ÷ means + and + means -, then (3 – 15 ÷ 19) × 8 + 6 = ?
    a. -1   b. 2   c. 4   d. 8   e. 10

12. If × means +, + means ÷, - means × and ÷ means -, then 8 × 7 − 8 + 40 ÷ 2 =?

    a. 1   b. $7\frac{2}{5}$ c. $8\frac{3}{5}$ d. 44   e. None of these

13. If × means -, + means ÷, - means × and ÷ means +, then 15 – 2 ÷ 900 + 90 × 100 =?

   a. 190   b. 180   c. 90   d. 0   e. None of these

Type II: Interchange of signs and numbers

Directions: (Q14-17): In each of the following questions, if the given interchanges are made in signs and numbers, which one of the four equations would be correct?

   14. Given interchanges: Signs – and ÷ and numbers 4 and 8.
      a. $6 – 8 ÷ 4 = - 1$ b. $8 – 6 ÷ 4 = 1$ c. $4 ÷ 8 – 2 = 6$ d. $4 – 8 ÷ 6 = 2$

   15. Given interchanges: Signs + and × and numbers 4 and 5.
      a. $5 × 4 + 20 = 40$ b. $5 × 4 + 20 = 85$ c. $5 × 4 + 20 = 104$ d. $5 × 4 + 20 = 95$

   16. Given interchanges: Signs + and – and numbers 4 and 8.
      a. $4 ÷ 8 – 12 = 16$ b. $4 – 8 + 12 = 0$ c. $8 ÷ 4 – 12 = 24$ d. $8 – 4 ÷ 12 = 8$

   17. Given interchanges: Signs – and × and numbers 3 and 6.
      a. $6 – 3 × 2 = 9$ b. $3 – 6 × 8 = 10$ c. $6 × 3 – 4 = 15$ d. $3 × 6 – 4 = 33$

Directions: (Q18-20): In the following questions, the given equations become correct due to the interchange of two signs. One of the four alternatives under specifies the interchange of signs in the equation which when made will make the equation correct. Find the correct alternative.

   18. $5 + 3 × 8 – 12 ÷ 4 = 3$
      a.   + and -   b. – and ÷   c. + and ×   d. + and ÷

   19. $5 + 6 ÷ 3 – 12 × 2 = 17$
      a.   ÷ and ×   b. + and ×   c. + and ÷   d. + and –

   20. $2 × 3 + 6 – 12 ÷ 4 = 17$
      a.   × and +   b. + and -   c. + and ÷   d. – and ÷

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MENTAL ABILITY TEST (MAT) -VII
MATHEMATICAL OPERATIONS
WORKSHEET-2

Name: _____   **Class: _____**   **Date: _____**

Type I: Problem solving by substitution

1. If '+' means 'minus', '×' means 'divided by', '÷' means 'plus' and '-' means 'multiplied by', then which of the following will be the value of the expression 24 × 6 − 3 ÷ 4 + 7 =?
   a. 9   b. 81   c. 121   d. 99   e. None of these

2. If × stands for 'addition', ÷ stands for 'subtraction', + stands for 'multiplication' and − stands for 'division', then 20 × 8 ÷ 8 − 4 + 2 = ?
   a. 80   b. 25   c. 24   d. 5   e. None of these

3. If − means ×, × means +, + means ÷ and ÷ means -, then 40 × 12 + 3 -6 ÷ 60 = ?
   a. 7.95   b. 16   c. 44   d. 479.95   e. None of these

4. If + means ÷, × means -, ÷ means × and − means +, then 8 + 6 × 4 ÷ 3 − 4 = ?
   a. -12   b. $-\frac{20}{3}$ c. 12   d. $\frac{20}{3}$ e. None of these

5. If + means ×, ÷means -, × means ÷ and − means +, then what will be the value of 4 + 11 ÷ 5 − 55 = ?
   a. -48.5   b. -11   c. 79   d. 91   e. None of these

Directions (Q6-10): If + is ×, - is +, × is ÷ and ÷ is - , then answer the following questions based on this information:

6. 9 ÷ 5 + 4 − 3 × 2 = ?
   a. 2   b. − 9   c. - 3   d. 3   e. None of these

7. 6 + 7 × 3 − 8 ÷ 20 = ?
   a. − 3   b. 7   c. 2   d. 1   e. None of these

8. 3 × 2 + 4 − 2 ÷ 9 = ?
   a. − 1   b. 1   c. − 2   d. 3   e. None of these

9. 6 − 9 + 8 × 3 ÷ 20 = ?
   a. − 2   b. 6   c. 10   d. 12   e. None of these

10. 5 × 4 − 6 ÷ 3 + 1 = ?
   a. 5   b. 4   c. − 1   d. 2   e. None of these

Directions (Q11-13): If + is ×, - is +, × is ÷ and ÷ is -, then answer the following questions based on this information:

11. 15 × 5 ÷ 3 + 1 − 1 = ?
   a. − 1   b. − 2   c. 3   d. 1   e. None of these

12. 9 − 3 + 2 ÷ 16 × 2 = ?
   a. 7   b. 5   c. 9   d. 6   e. None of these

13. 21 ÷ 8 + 2 − 12 × 3 = ?
   a. 14   b. 9   c. 13.5   d. 11   e. None of these

14. If + means ×, × means -, ÷ means + and – means ÷, then which of the following gives the result of expression 175 - 25 ÷ 5 + 20 × 3 + 10 ?
    a. 77   b. 160   c. 240   d. 2370

15. If L stands for +, M stands for -, N stands for × and P stands for ÷, then 14 N 10 L 42 P 2 M 8 = ?
    a. 153   b. 216   c. 248   d. 251

16. If P means ×, R means +, T means ÷ and S means - , then 18 T 3 P 9 S 8 R 6 = ?
    a. $-1\frac{1}{3}$ b. $\frac{2}{3}$ c. 46   d. 58   e. None of these

17. If P denotes 'multiplied by', T denotes 'subtracted from', M denotes 'added to' and B denotes 'divided by', then 28 B 7 P 8 T 6 M 4 = ?
    a. $-\frac{3}{2}$ b. 30   c. 32   d. 34   e. None of these

18. If 'when' means '×', 'you' means '÷', 'come' means '-' and 'will' means '+', then what will be the value of "8 when 12 will 16 you 2 come 10" ?
    a. 45   b. 94   c. 96   d. 112   e. None of these

19. If A stands for +, B stands for -, C stands for ×, then what is the value of (10 C 4) A (4 C 4) B 6 ?
    a. 60   b. 56   c. 50   d. 46

Type II: Interchange of signs and numbers

20. Given interchanges: Signs + and -, numbers 4 and 8, find out which one of the four equations would be correct?
    a. 4 + 8 – 12 = 12   b. 4 – 8 + 12 = 0   c. 8 + 4 – 12 = 24   d. 8 – 4 + 12 = 8

Directions: (Q21-24): In the following questions, the given equations become correct due to the interchange of two signs. One of the four alternatives under specifies the interchange of signs in the equation which when made will make the equation correct. Find the correct alternative.

21. 16- 8 ÷ 4 + 5 × 2 = 8
    a. ÷ and ×   b. – and ÷   c. ÷ and +   d. – and ×

22. 9 + 5 ÷ 4 × 3 – 6 = 12
    a. + and ×   b. ÷ and ×   c. ÷ and -   d. + and –

23. 12 ÷ 2 – 6 × 3 + 8 = 16
    a. ÷ and +   b. – and +   c. × and +   d. ÷ and ×

24. 10 + 10 ÷ 10 – 10 × 10 = 10
    a. + and -   b. + and ÷   c. + and ×   d. ÷ and +

25. Which one of the four interchanges in signs and numbers would make the given equation correct?

                    3 + 5 – 2 = 4

    a. + & -, 2 & 3   b. + & -, 2 & 5   c + & -, 3 & 5   d. None of these

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MENTAL ABILITY TEST (MAT)-VII
VENN DIAGRAMS
BASIC CONCEPTS

1. A Venn diagram (also known as set diagram or logic diagram) is a diagram that shows all possible logical relations between the given elements.

2. In this type of test, a diagram is made and according to the question data is filled in the diagram.

3. After filling the data, student has to analyse that by which diagram a particular set of elements can be best represented.

4. This topic deals with questions which judge student's ability to relate a certain given group of items and depict it by diagram.

Basic types of Venn diagrams:

1. All items belong to three different groups: eg. A- Doctors, B-Engineers, C-Lawyers
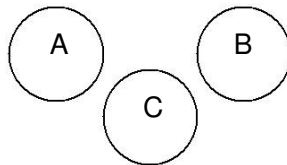
2. If one item belongs to the class of second and the second belongs to the class of third. Eg. A-Seconds, B-Minutes, C-Hours
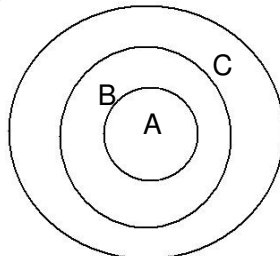
3. If two separate items belong to the class of third. Eg. A-Table, B-Chair, C-Furniture
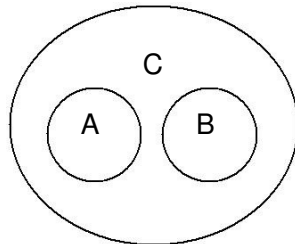
4. If two items belong to the class of third such that some items of each of these groups are common. Eg. A-Fathers, B-Brothers, C-Males
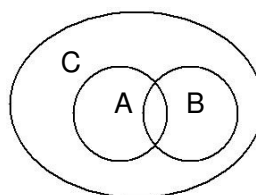
5. If two items are partly related to the third but are themselves independent of each other. Eg. A-Dogs, B-Pets, C-Cats
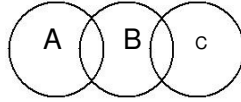
6. If three items are partly related to each other. Eg. A-Peons, B-Government Employees, C-Educated Persons.
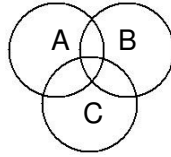
7. If one item belongs to the class of second while third is entirely different from the two. Eg. A-Engineers, B-Human Beings, C- Rats

B
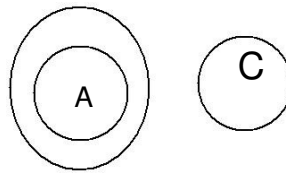
8. If one item belongs to the class of second and the third item is partly related to these two. Eg. A-Females, B-Mothers, C-Doctors
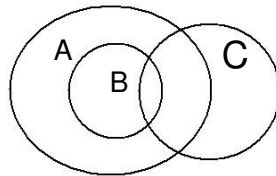
9. If one item belongs to the class of second and the third item is partly related to the second. Eg. A-Fathers, B-Males, C-Children
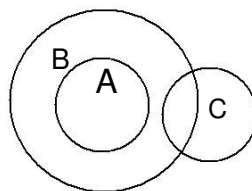
10. If two items are partly related to each other and the third item is entirely different from the two. Eg. A-Professor, B-Author, C-Children

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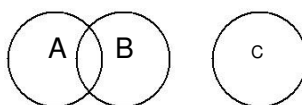
MENTAL ABILITY TEST (MAT) -VII
VENN DIAGRAMS
WORKSHEET-1

Name: _____   **Class:** _____   **Date:** _____

Directions: (Questions 1-8): Each of the questions below contains three elements. These three elements may or may not have any linkage. Each group of the elements may fit into one of the diagrams at (a), (b), (c), (d) and (e). You have to indicate groups of elements in each of the questions fit into which of the diagrams given below. The letter indicating the diagram is the answer.
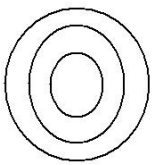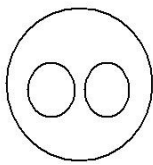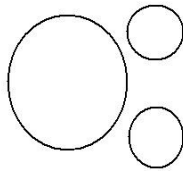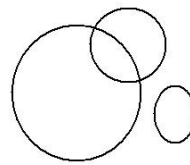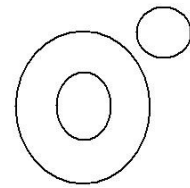
    (a)   (b)   (c)   (d)   (e)

1. Vegetables, Potato, Cabbage
2. Table, Chair, Furniture
3. Week, Day, Year
4. Judge, Thief, Criminal
5. Husband, Wife, Family
6. Bus, Car, Vehicle
7. House, Bedroom, Bathroom
8. Mustard, Barley, Potato

Directions: (Questions 9-18): In the following questions, three classes are given. Out of the five figures that follow, you are to indicate which figure will best represent the relationship amongst the three classes.
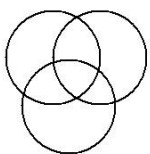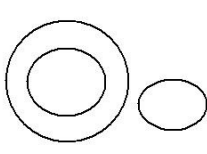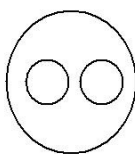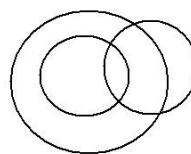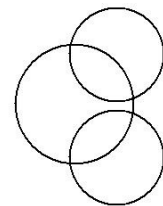
    (a)   (b)   (c)   (d)   (e)

9. Elephants, Wolves, Animals
10. Metal, Iron, Chlorine
11. Mammals, Cows, Crows
12. Women, Mothers, Widows
13. Authors, Teachers, Men

14. Kerala, Bihar, India
15. Automobiles, Cars, Motor-cycles
16. Brick, House, Bridge
17. Tea, Coffee, Beverages
18. Boys, Students, Athletes
19. Which number is in all the geometrical figures?
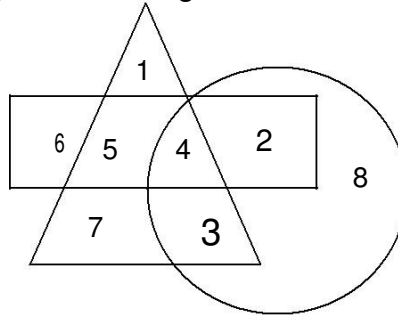
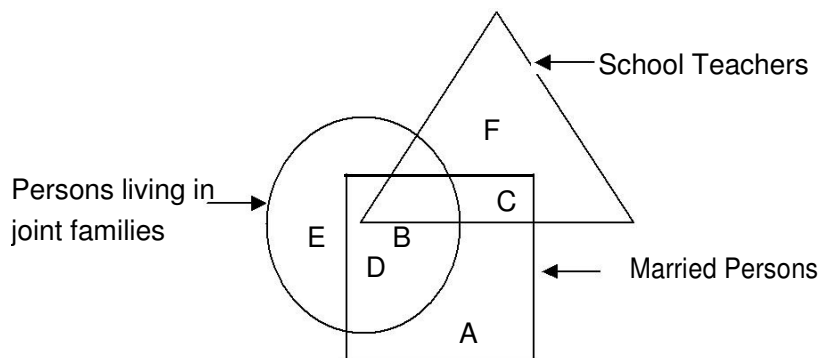a. 3　　　　　　b. 4　　　　　　c. 5　　　　　　d. 8

20. Which number belongs to all the figures?
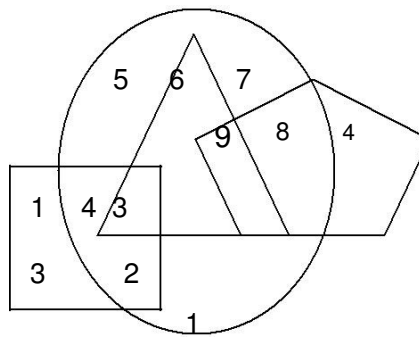
a. 3　　　　　　b. 4　　　　　　c. 6　　　　　　d. None of these

Directions: (Questions 21-22): In the following diagram, three classes of population are represented by three figures. The triangle represents the school teachers, the square represents the married persons and the circle represents the persons living in joint families.

21. Married persons living in joint families but not working as school teachers are represented by

      a. C   b. F   c. D   d. A

22. Persons who live in joint families, are unmarried and who do not work as school teachers are represented by

      a.   C   b. B   c. E   d. D

23. Married teachers living in joint families are represented by

      a.   C   b. B   c. D   d. A

24. School teachers who are married but do not live in joint families are represented by

      a.   C   b. F   c. A   d. D

25. School teachers who are neither married nor do live in joint families are represented by

      a.   F   b. C   c. B   d. A

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MENTAL ABILITY TEST (MAT) -VII
VENN DIAGRAMS
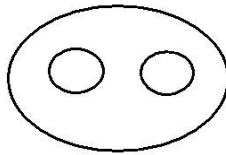## WORKSHEET- 2

Name: _____ Class: _____ Date: _____

Directions: (Questions 1-13): In each of the following questions, three words are related in some way. The relationship among the words in the question can best be represented by one of the five diagrams (a), (b), (c), (d) and (e) given below. Mark your answer accordingly.
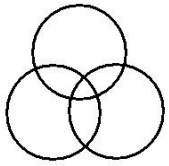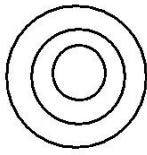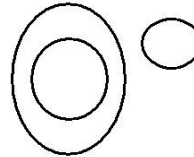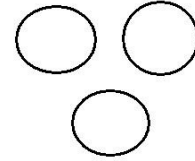
   (a)   (b)   (c)   (d)   (e)

1. Teacher, College, Student
2. Parrots, Birds, Mice
3. Men, Rodents, Living beings
4. Parents, Mother, Father
5. Nitrogen, Ice, Air
6. Musicians, Singers, Women
7. Elephant, Carnivore, Tiger
8. Hospital, Nurse, Patient
9. Nose, Hand, Body
10. Rings, Ornaments, Diamond rings
11. Furniture, Tables, Books
12. Sailor, Ship, Ocean
13. Cereal, Wheat, Rice

Directions: (Questions 14-22): Each of these questions below contains three groups of things. You are to choose from the following five diagrams, the one that depicts the correct relationship among the three groups of things in each question.
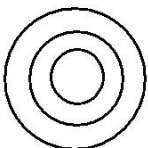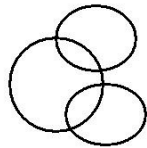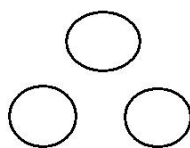
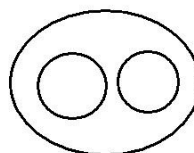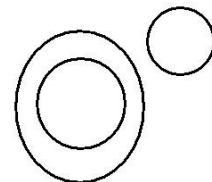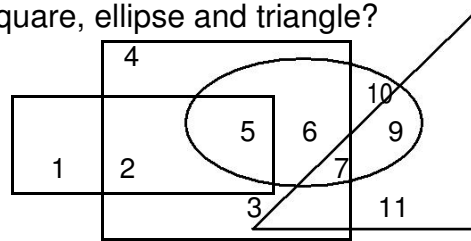   (a)   (b)   (c)   (d)   (e)

14. Carrot, Food, Vegetables
15. Tie, Shirt, Pantaloon
16. Shirt, Collar, Pocket
17. Petals, Bouquet, Flowers
18. Dogs, Pets, Cats

19. Brinjal, Meat, Vegetables
20. Languages, French, German
21. Sun, Planets, Earth
22. Classroom, Blackboard, School
23. Which number is in the square, ellipse and triangle?

a) 10   b) 9   c) 6   d) 7

Directions (Questions 24-26): Study the following diagram to answer these questions:
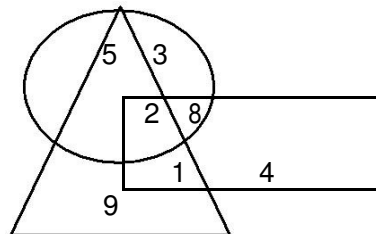
24. find out the number that lies inside all the figures:
    a. 2   b. 5   c. 9   d. No such number is there
25. What are the numbers that lie inside any two figures:
    a. 2,1   b. 5,1   c. 5,9   d. 9, 1
26. Find out the number that lies only inside the triangle:
    a. 1   b. 2   c. 5   d. 9

Directions (Questions 27-30): In the figure given below, there are three intersecting circles each representing certain section of people. Read the statements in each of the following questions and choose the letter of the region which correctly represents the statement.
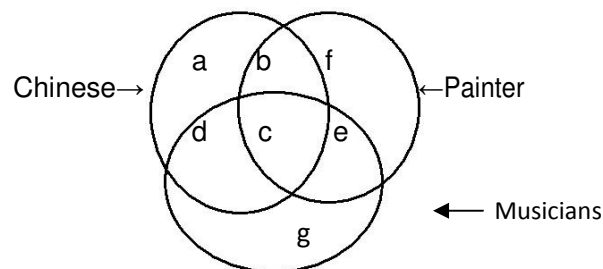
27.   Chinese who are painters but not musicians:
          a.   b   b. c   c. d   d. g
28.   Painters who are neither Chinese nor musicians:
          a.   b   b. c   c. f   d. g
29.   Chinese who are musicians but not painters:
          a.   d   b. c   c. b   d. a
30.   Chinese who are painters as well as musicians:
          a.   a   b. b   c. c   d. d