

B.Tech. SEM -VI (Chemical/ Civil/ Electrical/ Mechanical/
Production/ Computer/ Info. Tech./ Electronics / Bio Medical / E & TC)
2014 Course (CBCS) : WINTER - 2018
SUBJECT: PROFESSIONAL SKILLS DEVELOPMENT - VI

Day: Monday
Date: 19/11/2018

W-2018-2448

Time: 10.00 AM TO 01.00 PM
Max Marks: 100

N.B. :

- 1) All the questions are **COMPULSORY**.
- 2) Figures to the right indicate **FULL** marks.
- 3) Answers to all sections should be written in **SAME** answer book.

SECTION - I
(Quantitative aptitude and logical reasoning)

Q.1 Solve the following questions. **(10)**

a) The probability of success of three students X, Y and Z in the one examination are $\frac{1}{6}$, $\frac{1}{4}$ and $\frac{1}{3}$ respectively. Find the probability of success of at least two.

- i) $\frac{1}{6}$ ii) $\frac{2}{5}$ iii) $\frac{3}{4}$ iv) $\frac{3}{5}$

b) A bag contains 6 white and 4 black balls; two balls are drawn at random from the bag. Find the probability that both are of the same colour.

- i) $\frac{6}{15}$ ii) $\frac{7}{15}$ iii) $\frac{4}{15}$ iv) $\frac{3}{15}$

c) Three unbiased coins are tossed. What is the probability that at most one head occurs?

- i) $\frac{4}{8}$ ii) $\frac{5}{8}$ iii) $\frac{6}{8}$ iv) $\frac{2}{6}$

d) What is the probability of getting a sum of 9 from two throws of a dice?

- i) $\frac{1}{6}$ ii) $\frac{1}{8}$ iii) $\frac{1}{9}$ iv) $\frac{1}{12}$

e) Tickets numbered 1 to 20 are mixed up and then a ticket is drawn at random. What is the probability that the ticket drawn has a number which is a multiple of 3 or 5?

- i) $\frac{1}{2}$ ii) $\frac{2}{5}$ iii) $\frac{8}{15}$ iv) $\frac{9}{20}$

Q.2 Solve the following questions of permutation and combination. **(10)**

a) Using all the letters of the word 'THURSDAY', how many different words can be formed?

- i) 8 ii) 8! iii) 7! iv) 7

b) In how many different ways can the letters of the word 'OPTICAL' be arranged so that the vowels always come together?

- i) 610 ii) 720 iii) 825 iv) 920

c) How many integers, greater than 999 but not greater than 4000, can be formed with the digits 0, 1, 2, 3 & 4, if repetition of digits is allowed?

- i) 376 ii) 375 iii) 500 iv) 673

d) A team of 8 students goes on an excursion, in two cars, of which one can seat 5 and the other only 4. In how many ways can they travel?

- i) 9 ii) 26 iii) 126 iv) 3920

P.T.O.

- e) In how many ways can 5 men draw water from 5 taps that can be used more than once?
 i) 720 ii) 60 iii) 120 iv) None of these

Q.3 Solve the following question. (10)

Directions: Each of the following questions consists of two sets of figures. Figures A, B, C and D constitute the problems set while figures 1, 2, 3, 4, and 5 constitute the answer sets. There is a definite relationship between the figures A and B. Establish similar relationship between C and D by selecting a suitable figure from the answer sets that would replace the question mark in figure D.

a)

A	B	C	D

1	2	3	4	5

b)

A	B	C	D

1	2	3	4	5

c)

A	B	C	D

1	2	3	4	5

- d) Complete the series:
 0, 2, 3, 5, 8, 10, 15, 18, 24, 26, 35 ?
- e) Complete the series :
 1, 5, 11, 19, 29, 55s ?

Q.4 Solve the following questions: (10)

- a) If Arun's birthday is on May 25 which is Monday and his sister's birthday is on July 13. Which day of the week is his sister's birthday?
 i) Monday ii) Wednesday iii) Thursday iv) Friday
- b) The hour and the minute hands of a clock coincide at midnight. At what time of the day will the hands coincide again?
 i) 1:6 o'clock ii) $1:5\frac{5}{11}$ o'clock iii) 1:5 o'clock iv) $1:6\frac{4}{11}$ o'clock
- c) What is the angle between two hands of a clock when the time shown by the clock is 6:30 p.m.?
 i) 00° ii) 50° iii) 30° iv) 150°
- d) What was the day of the week on 17th June 1998?
 i) Monday ii) Tuesday iii) Wednesday iv) Thursday
- e) What will be the angle between the minute and the hour hand of a clock when the time is 4:20 p.m.?
 i) 10 degrees ii) 20 degrees iii) 15 degrees iv) 12 degrees

Q.5 Study the following information carefully and answer the given questions. **(10)**

When a word and number arrangement machine is given an input line of words and numbers, it arranges them following a particular rule. The following is an illustration of an input and rearrangement. (all the numbers are two digits only.)

Input: 41 sun 10 ear 97 net 26 65 ant dog

Step-I: 97 41 ear net 26 65 ant dog sun

Step-II: net 97 41 10 ear 26 ant dog sun 65

Step-III: 41 net 97 10 26 ant dog sun 65 ear

Step-IV: dog 41 net 97 10 ant sun 65 ear 26

Step-V: 10 dog 54 net 97 sun 65 ear 26 ant

Step V is the largest step of above arrangement as the intended arrangement is obtained. So as per the rules followed in the given steps, find out the appropriate steps for the input.

Input: 40 rose 9 eye 87 monkey 21 55 apple cat

- a) Which element comes exactly between 87 and 21 in step III of the given input?
 - i) 9 ii) Monkey iii) Apple iv) Cat v) Rose
- b) If in a first step 9 interchanges its position with cat and monkey also interchanges its position with apple, then which element will be to the immediate left of 21?
 - i) 9 ii) Monkey iii) Cat iv) Rose v) Apple
- c) Which of the following combinations represent the first two and the last two elements in the step V of the given input?
 - i) 40 rose and 55 apple ii) 9 eye and 87 monkey
 - iii) 87 monkey and 55 apple iv) 10 cat and 40 rose
 - v) 10 cat and 21 apple
- d) Which element is fourth to the right of the one which is ninth from the right and is step V of the given input?
 - i) 9 ii) Monkey iii) Rose iv) Cat v) Apple
- e) In which steps are the elements apple rose 55 eye found in the same order?
 - i) III ii) IV iii) II iv) V v) Not found

SECTION – II

(Verbal Ability and English Grammar)

Q.6 Write the meaning of the following pairs of the words that are often confusing and use each of them in your own sentences. **(10)**

- | | |
|----------------------|--------------------|
| i) Defer, differ | vi) Deep, dip |
| ii) Desert, dessert | vii) Door, doer |
| iii) Dose, doze | viii) Fed, fade |
| iv) Farther, further | ix) Extant, extend |
| v) Flea, flee | x) Goal, gaol |

- Q.7 A)** Spot the error parts in the following sentences. (05)
- a) Her name is so glorious (i) / in our history (ii) / as any other leader (iii) / no error.(iv)
 - b) I cannot confirm you (i) / if he has paid the bill (ii) / or returned the goods (iii) / no error (iv)
 - c) As they were in (i) / trouble therefore they (ii) / did not attend marriage (iii) / no error (iv)
 - d) He is well known (i) / for both his kindness (ii) / as well as his understanding (iii) / no error (iv)
 - e) Carry it (i) / carefully lest (ii) / it should not fall (iii) / no error (iv)

- Q.7 B)** The sentences given below are incorrect. There is a mistake in the use of (05) articles. Correct the sentences by using the right articles.
- a) This is a place where I want to get off.
 - b) My guru was the perfectionist.
 - c) My uncle is an union minister.
 - d) The first event was a 100 metre race.
 - e) He was called to visit the dying boy.

SECTION - III
(Soft Skills)

- Q.8** Answer the following questions.
- a) What strategies one would utilize to manage stress at a workplace? (05)
 - b) Elaborate the following terms of written communication: (05)
(i) Business letters (ii) memo
 - c) When would you use a direct and indirect approach to letter writing? Justify your reasoning. (05)
 - d) What is a group discussion? How would one be part of a group discussion to get placed in a company? (05)
 - e) How would you overcome your weaknesses in an interview? Elucidate with appropriate examples. (05)
 - f) Write a job application letter along with a resume to Intern Technology Ltd., for the post of Personal Manager. (05)

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