DEPARTMENTAL EXAMINATION FOR TEHSILDARS / NAIB TEHSILDARS OF HIMACHAL PRADESH, APRIL, 2011.

PAPER: 2. ARITHMETIC AND PATWARIS MENSURATION.

TIME ALLOWED: 3 Hours   **Maximum Marks: 100**

Note: 1. The candidate may answer the question in Hindi or English.
2. Attempt any five questions but at least two questions from each part.

Part-I Arithmetic

Q.No.1 (i) Find the smallest number of five digits exactly divisible by 16, 24, 36 and 54. (5)

(ii) The traffic lights at three different road crossing change after every 48 second, 72 second an d 108 second respectively. If they all change simultaneously at 8:20:00 hours, then at what time will they again change simultaneously? (10)

(iii) Arrange the fractions 17/18,31/36,43/45,59/60 in ascending order. (5)

Q.No.2 (i) An empty fuel tank of a car was filled with A type petrol. When the tank was half empty, it was filled with B type petrol. Again when the tank was half empty it was filled with A type petrol. When the tank was half empty again, it was filled with B type petrol. What is the percentage of A type petrol at present in the tank? (10)

(ii) In an examination, the percentage of students qualified to the number of students appeared from school A is 70%. In school B, the number of students appeared is 20% more than the students appeared from school A and the number of students qualified from school B is 50% more than the students qualified from School A. What is the percentage of students qualified to the number of students appeared from school B? (5)

(iii) Samant brought a microwave oven and paid 10% less than the original price he sold it with 30% profit on the price he had paid. What percentage of profit did Samant earn on original price? (5)

Q. No.3 (i) P,Q and R are three typist who working simultaneously can type 216 pages in 4 hours. In one hour, R can type as many pages more than Q as Q can type more than P. During a period of five hours, R can type 60 as many pages as P can during seven hours. How many pages each of them type per hour. (10)

(ii) The altitude drawn to the base of an isosceles triangle is 8 cm and the perimeter is 32 cm. Find the area of the triangle. (5)

(iii) The cost of fencing a square field at the rate of Rs.20 per meter is Rs.10080. How much will it cost to lay a three meter wide pavement alongwith the fencing inside the field at the rate of Rs.50 per sqm. (5)

Q.No.4 (i) A sum of money amount to Rs.9800 after 5 years and Rs.12005 after 8 years at the Same rate of simple interest. Find the rate of interest per annum. (5)

(ii) On a sum of money, the simple interest for two years is Rs.660, while the the compound interest is Rs.696.30, the rate of interest being the same in both cases. Find the rate of interest. (5)

(iii) The areas of a square and a rectangle are equal. The length of the rectangle is greater that the length of any side of the square by 5 cm and the breadth is less by 3 cm. Find the perimeter of the rectangle. (10)

Part -II

Q.No.5 (i) How field is demarcated with the help of a shajra map. Out line important steps in a valid demarcation (8)

(ii) What is chandabandi. How is it done during the process of measurement of a village during settlement operation (7)

(iii) What is tatima. What aspects be taken care of while preparing tatima. (5)

Q.No.6 (i) Write brief notes on each of the instruments to be used for measurement during settlement operation. (10)

(ii) Describe briefly the survey techniques used for surveying village during settlement operation in Himachal Pradesh. (10)

Q.No.7 Write short notes on the following :-

(i) Sehdajal.
(ii) Base line
(iii) Killabandi.
(iv) Musavi.
(v) Abadi Deh.
(vi) Takkao
(vii) Adda
(viii) Misl Haquiyat.
(ix) Mohaj
(x) Mohal. (2x10)