Name of the student: ....*Date:* ..../........./.........

❖ **Basal metabolic rate (BMR)**

Basal metabolic rate (BMR) indicates the used energy of human being at resting stage.

Basal metabolic rate (**BMR**) is the rate of energy expenditure per unit time by endothermic animals at rest.

○ **Endothermic animals** use internally generated heat to maintain body temperature. Their body temperature tends to stay steady regardless of environment. e.g.—Man

○ **Ectothermic animals** depend mainly on external heat sources, and their body temperature changes with the temperature of the environment. e.g.—Toad

➤ To get an idea regarding BMR, popular Harris Benedict's formula is used.

✓ BMR (female) = $655 + (9.6 \times \text{weight. kg}) + (1.8 \times \text{height. cm}) - (4.7 \times \text{age. year})$

✓ BMR (male) = $66 + (13.7 \times \text{weight. Kg}) + (5 \times \text{height. Cm}) - (6.8 \times \text{age. year})$

Q. Each of you determine your BMR value.

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➤ Calorie demand can be measured by using the table below.

Physical condition	Calorie
Not working	BMR value × 1.2
Light working, playing 2-3 days in a week.	BMR value × 1.375
Working, sufficient playing 2-3 days in a week.	BMR value × 1.55
Working, playing every day in a week	BMR value × 1.725
Hard working, sufficient jumping, running and playing.	BMR value × 1.9

Q. Each of you determine your calorie demand on the basis of your physical condition.

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❖ <u>Body mass index (BMI)</u>

Body mass index indicates the relation between the height and deposition of the fat of a person of particular age for healthy living and maintaining good health.

➢ BMI = $\dfrac{\text{Body weight (kg)}}{\text{Height of the body (meter)}^2}$

Q. Each of you determine your BMI value.

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❖ <u>Body mass index (BMI) scales</u>

BMI value	Physical condition
Below 18.5	Under weight
18.5-24.9	Ideal scale for good health
25-29.9	Over weight
30-34.9	First stage of obesity
35-39.9	Second stage of obesity
Above 40	Extreme obesity

Q. Each of you determine your physical condition on the basis of BMI value and explain what to do.

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