

# Section A

Post-Graduate Programme in Health and Hospital Management  
(2013-2015)

Essentials of Economics and Financing

Final Examination

Full Marks: 70

Answer all questions. Apply economic tools and concepts as far as possible. The length of each of your answer should not exceed half a page (less is better!)

- 1) "Free distribution of contraceptives for birth control is a bad idea. A free gift is less likely to be used. People value things only when they pay for it". Do you agree? Why or why not? 10
- 2) "JSY is a bad economics" Do you agree? Why or why not? 10
- 3) Doctors are often found to be reluctant to start practice in villages even if there is high demand for health care among rural population. Can you explain this phenomenon in terms of Supplier-induced demand? 10
- 4) The IMR in India has been reducing following the trend given below:

| Year                       | 2000 | 2010 | 2020<br>(projected) |
|----------------------------|------|------|---------------------|
| IMR (per 1000 live births) | 66   | 47   | 35                  |

There is a pattern in the rate of reduction in numbers. Apply some economic concept to explain the pattern. 10

- 5) A junior manager of Hospital XXX has been told to estimate the unit cost of services provided by two patient departments: Maternity and Orthopaedics. There are two other departments – Administration and Pharmacy – that provide support to these patient departments. She shares the following data on four departments with you:

*The direct costs of Administration and Pharmacy are Rs. 500,000 and 600,000. The same of Maternity and Orthopaedics are Rs. 300,000 and*

200,000. It is known that Administration provides support to all three departments and Pharmacy only to the patient departments. But, there is no information on what proportion of Administration resources are used by the other three departments. Pharmacy resources are usually used in proportion with number of patients the departments treat – 300 and 200 respectively for Mat and Ortho.

Based on the above information, can you estimate the unit cost of Mat and Ortho departments? What assumption(s) do you have to take for this purpose?

10

- 6) Following table presents some clinical research data on two drugs for a malaria control programme in two villages with the sole objective of reducing the morbidity due to malaria.

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|                                     | Drug A (applied in village 1) | Drug B (applied in village 2) |
|-------------------------------------|-------------------------------|-------------------------------|
| Annual production cost (discounted) | \$ 10,000                     | \$4,000                       |
| Annual R & D cost (discounted)      | \$ 3,000                      | \$ 7,000                      |
| Drug Efficacy.                      | 40%                           | 50%                           |
| Population                          | 10000                         | 15000                         |
| Prevalence of Malaria               | 5%                            | 5%                            |
| % treated                           | 20%                           | 10%                           |

- Explain the numbers in Row 3 (Drug Efficacy)
  - Explain what is meant by the word “discounted” in Row 1 and 2.
  - Which drug is more cost-effective? Please show calculations.
- 7) How would you measure the “effects” of a diarrhoea control program (for children) which aims to reduce the mortality (due to diarrhoea) among children (hint: think about the case study discussed in the class)?

| Step 1 (Allocate Admin cost) |             |                      |             |                    |           |
|------------------------------|-------------|----------------------|-------------|--------------------|-----------|
|                              | Direct cost | A.S<br>(Direct cost) | % Allocated | Revised allocation |           |
| Admin                        | 500,000     |                      | 100%        |                    |           |
| Pharma                       | 600,000     | 600,000              | 0.545455    | 272727.3           | 872,727   |
| Maternity                    | 300,000     | 300,000              | 0.272727    | 136363.6           | 436,364   |
| Ortho                        | 200,000     | 200,000              | 0.181818    | 90909.09           | 290,909   |
| Total                        | 1,600,000   | 1100000              |             | 500000             | 1,600,000 |

  

| Step 2 (Allocate Pharma cost) |             |                     |             |                    |           |
|-------------------------------|-------------|---------------------|-------------|--------------------|-----------|
|                               | Direct cost | A.S<br>(# patients) | % Allocated | Revised allocation |           |
| Admin                         |             |                     |             |                    |           |
| Pharma                        | 872,727     |                     | 100%        |                    |           |
| Maternity                     | 436,364     | 300                 | 0.6         | 523636.4           | 960,000   |
| Ortho                         | 290,909     | 200                 | 0.4         | 349090.9           | 640,000   |
| Total                         | 1,600,000   | 500                 |             | 872727.3           | 1,600,000 |

|                   | Drug A       | Drug B          |
|-------------------|--------------|-----------------|
| Prod cost         | 10000        | 4000            |
| R&D               | 3000         | 7000            |
| Efficacy          | 40%          | 50%             |
| Population        | 10000        | 15000           |
| Prevalence        | 5%           | 5%              |
| % treated         | 20%          | 10%             |
| <b>Averted</b>    | <b>40</b>    | <b>37.5</b>     |
| <b>Total cost</b> | <b>13000</b> | <b>11000</b>    |
| <b>CE1</b>        | <b>325</b>   | <b>293.3333</b> |
| Excl. R & D cost  | 10000        | 4000            |
| <b>CE2</b>        | <b>250</b>   | <b>106.6667</b> |