S6 Tourism and Hospitality Practice Paper 1 | Hotel occupancy, RevPAR, overbooking, tour costing, package commission, exchange rates and carrying capacity

Senior Secondary Tourism and Hospitality

S6 Tourism and Hospitality paper with answers: hotel occupancy, ADR, RevPAR, overbooking, tour costing, package commission, exchange rates and carrying capacity.

1. Hotel occupancy, ADR and RevPAR (18 marks)

Occupancy = rooms sold / rooms available; ADR = room revenue / rooms sold; RevPAR = ADR x occupancy.

#	Question	Answer and marking notes
1	(a) A hotel with 250 rooms sells 5,850 room nights in 30 days. Find the occupancy rate (1 decimal place).	Answer: Rooms available = 250 x 30 = 7,500; occupancy = 5,850 / 7,500 x 100 = 78.0 per cent.
2	(b) Room revenue in the same period is 3,510,000 dollars. Find the average daily rate in dollars.	Answer: ADR = 3,510,000 / 5,850 = 600 dollars.
3	(c) Find RevPAR (revenue per available room) for the period and check it by a second method.	Answer: RevPAR = 600 x 0.78 = 468 dollars; check: 3,510,000 / 7,500 = 468 dollars.
4	(d) Next month occupancy rises to 85 per cent with ADR held at 600 dollars. Find room revenue and the increase over this period in dollars and as a percentage (1 decimal place).	Answer: Rooms sold = 7,500 x 0.85 = 6,375; revenue = 6,375 x 600 = 3,825,000.0 dollars; increase 315,000.0 dollars; growth = 315,000.0 / 3,510,000 x 100 = 9.0 per cent.

2. Overbooking and walk compensation (16 marks)

Overbooking matches expected no-shows; compare the cost of walking guests with the loss from empty rooms.

#	Question	Answer and marking notes
5	(a) A hotel has 180 rooms with a 6 per cent no-show rate and a 4 per cent cancellation rate. Find the number of rooms it can overbook.	Answer: Expected vacancy = 6 + 4 = 10 per cent; overbooking = 180 x 10 per cent = 18 rooms.
6	(b) If 18 rooms are overbooked and every guest arrives, 18 guests must be walked. Compensation is 900 dollars for the replacement room, 150 dollars transport and 300 dollars voucher per room. Find the total cost.	Answer: Per room = 900 + 150 + 300 = 1350 dollars; total = 18 x 1350 = 24,300 dollars.
7	(c) If no-shows match expectation (18 empty rooms) and nobody is walked, with ADR at 700 dollars, find the extra revenue from overbooking.	Answer: 18 extra rooms x 700 dollars = 12,600 dollars.
8	(d) Compare the 1350 dollar walk cost with the 700 dollar loss per empty room. Find the number of walks at which overbooking starts to lose money and judge whether overbooking 18 rooms is sound.	Answer: With x walks, 1350x = (18 - x) x 700, so 2050x = 12,600 and x is about 6.15. Six walks still give 300 dollars (8,100 against 8,400); seven lose 1,750 dollars (9,450 against 7,700). More than six walks are needed to lose money, so overbooking 18 rooms is sound.

3. Tour costing and mark-up pricing (16 marks)

Cost per head = total tour cost / number of passengers; mark-up price = cost per head x (1 + mark-up rate).

#	Question	Answer and marking notes
9	(a) A 30-person, 5-day tour uses 15 twin rooms for 4 nights at 900 dollars per room per night. Find the hotel cost and the cost per head.	Answer: Hotel = 15 x 900 x 4 = 54,000 dollars; per head = 54,000 / 30 = 1,800 dollars.
10	(b) Air tickets are 2,800 dollars per head, local transport 18,000 dollars for the group, the guide 1,500 dollars a day and meals 260 dollars per head per day. Find the total and per-head cost.	Answer: Air 84,000, hotel 54,000, transport 18,000, guide 7,500 and meals 39,000; total 202,500 dollars; per head = 202,500 / 30 = 6,750 dollars.
11	(c) With a 20 per cent mark-up (rounded to the nearest ten dollars), find the price per head, total revenue and gross profit.	Answer: Price = 6,750 x 1.2 = 8,100 dollars; revenue = 8,100 x 30 = 243,000 dollars; gross profit = 243,000 - 202,500 = 40,500 dollars.
12	(d) If the tour instead uses ten triple rooms, still with a 20 per cent mark-up, find the hotel saving, the new cost per head and the new price.	Answer: New hotel cost = 10 x 900 x 4 = 36,000 dollars, saving 18,000; new total = 184,500 dollars; per head = 6,150; new price = 7,380 dollars.

4. Package commission and margin (18 marks)

Commission is charged on the package price; margin = gross profit / selling price x 100 per cent.

#	Question	Answer and marking notes
13	(a) A family of four (2 adults, 2 children) books a package: park tickets at 480 dollars for adults and 340 for children, plus 2 hotel rooms for 2 nights at 1,200 dollars per room per night. Find the package total.	Answer: Tickets = 2 x 480 + 2 x 340 = 1,640 dollars; hotel = 2 x 1,200 x 2 = 4,800 dollars; total = 6,440 dollars.
14	(b) The travel agent earns 12 per cent commission. Find the commission and the net cost (1 decimal place).	Answer: Commission = 6,440 x 0.12 = 772.8 dollars; net cost = 5,667.2 dollars.
15	(c) The agent sells the package at 6,900 dollars. Find the gross profit and the margin (1 decimal place).	Answer: Gross profit = 6,900 - 5,667.2 = 1,232.8 dollars; margin = 1,232.8 / 6,900 x 100 = 17.9 per cent.
16	(d) The agent adds two airport transfers at 450 dollars each, costing 600 dollars in total. Find the new price, new gross profit and new margin, and explain why the margin rises.	Answer: New price 7,800 dollars; cost rises by 600 to 6,267.2; new gross profit = 7,800 - 6,267.2 = 1,532.8 dollars; new margin = 1,532.8 / 7,800 x 100 = 19.7 per cent. The transfers carry a high mark-up (900 dollars for a 600 dollar cost, i.e. 50 per cent), which lifts the overall margin.

5. Exchange rate exposure and tour prices (16 marks)

Foreign cost x exchange rate = Hong Kong dollar cost; a stronger foreign currency squeezes the margin.

#	Question	Answer and marking notes
17	(a) A Japan tour costs 148,000 yen per head. With 100 yen = 5.6 Hong Kong dollars, find the cost per head in Hong Kong dollars.	Answer: 148,000 / 100 x 5.6 = 8,288 dollars.
18	(b) If the yen strengthens to 100 yen = 6.1 Hong Kong dollars, find the new cost and the increase per head.	Answer: New cost = 148,000 / 100 x 6.1 = 9,028 dollars; an increase of 740 dollars.
19	(c) The group has 30 people and the price is fixed at 9,800 dollars. Find the group gross profit before and after the rate rise, and the fall in profit.	Answer: Original profit = (9,800 - 8,288) x 30 = 45,360.0 dollars; new profit = (9,800 - 9,028) x 30 = 23,160.0 dollars; a fall of 22,200.0 dollars.
20	(d) To keep the original group profit of 45,360.0 dollars, find the new price per head and the percentage increase (1 decimal place), then comment on the risk of raising the price.	Answer: Cost 9,028 plus profit per head 1,512.0 gives 10,540.0 dollars; the rise is (10,540.0 - 9,800) / 9,800 x 100 = 7.6 per cent. Risk: a 7.6 per cent rise weakens competitiveness, so customers may switch tours or postpone, and a lower take-up could cut total profit further.

6. Carrying capacity and waste per visitor (16 marks)

Total waste = visitor arrivals x waste per visitor; exceeding treatment capacity creates environmental pressure.

#	Question	Answer and marking notes
21	(a) An island has a daily carrying capacity of 2,400 visitors and receives 3,120 a day in peak season. Find the excess and the excess percentage (1 decimal place).	Answer: Excess = 3,120 - 2,400 = 720 visitors; excess rate = 720 / 2,400 x 100 = 30.0 per cent.
22	(b) Each visitor produces 2.5 kg of waste a day. Find daily waste at peak level and at capacity in kg and tonnes.	Answer: Peak = 3,120 x 2.5 = 7,800 kg (7.8 tonnes); at capacity = 2,400 x 2.5 = 6,000 kg (6.0 tonnes).
23	(c) The island can treat 6,500 kg a day. Find the overflow in peak season and the spare capacity at carrying capacity.	Answer: Peak overflow = 7,800 - 6,500 = 1,300 kg; spare capacity at capacity level = 6,500 - 6,000 = 500 kg.
24	(d) If 20 per cent of peak visitors are diverted to other islands, find the new peak arrivals, the remaining excess over capacity, and whether waste is now below treatment capacity, then comment on the effectiveness.	Answer: New peak = 3,120 x 0.8 = 2,496 visitors; still 96 above capacity (4.0 per cent); waste = 2,496 x 2.5 = 6,240 kg, below 6,500 kg. The waste problem is solved, but visitor numbers still exceed capacity, so booking quotas or higher pricing are also needed for sustainability.