S4 Tourism and Hospitality Practice Paper: Tour Costing and Pricing, Visitor Arrivals and Seasonality, Hotel Occupancy and RevPAR, Tourism Multiplier and Leakage, Promotion Cost-Effectiveness, Carrying Capacity and Sustainability (100 marks)

Level: S4 | Subject: Tourism and Hospitality | 60 minutes | 100 marks | 24 questions | answer key

Section A: Tourism Products, Costing and Pricing (17 marks)

Each question is worth 4-5 marks; show your working.

#	Question	Answer	Marks
1	A destination recorded 2.4 million visitor arrivals in 2024 and 3.0 million in 2025. Average length of stay rose from 2.5 nights to 3.0 nights. (a) Calculate the increase in arrivals in number and in percentage. (b) Calculate total visitor-nights in each year.	Increase = 600,000 arrivals; percentage increase = 600,000 / 2,400,000 x 100% = 25%. Visitor-nights 2024 = 6,000,000; 2025 = 9,000,000 (an increase of 3.0 million nights).	5
2	The per-person cost of a tour: air ticket HK$3,200, 4 nights hotel HK$4,800, meals HK$1,200, local transport HK$600, guide HK$400. The agency adds a 15% markup on total cost. Calculate (a) total cost per person, (b) the selling price, (c) profit per person.	Total cost = HK$10,200; selling price = 10,200 x 1.15 = HK$11,730; profit = HK$1,530 per person.	4
3	A museum charges HK$50 per ticket with 1,200 visitors a day and 260 opening days a year. The ticket price rises by 10% and attendance falls by 8%. Calculate (a) the original annual revenue, (b) the new price and daily attendance, (c) the new annual revenue and the percentage change.	Original revenue = HK$15,600,000; new price = HK$55, new attendance = 1,104 per day; new revenue = 55 x 1,104 x 260 = HK$15,787,200, up HK$187,200 (+1.2%).	4
4	A visitor spends HK$7,200 in total, made up of shopping 42%, accommodation 28%, food 15%, transport 10% and others 5%. (a) Check that the percentages add up. (b) Calculate the amount of each item.	Total = 42 + 28 + 15 + 10 + 5 = 100%. Shopping HK$3,024, accommodation HK$2,016, food HK$1,080, transport HK$720, others HK$360; total HK$7,200.	4

Section B: Visitor Arrivals and Seasonality (16 marks)

Each question is worth 4 marks; give units in every answer.

#	Question	Answer	Marks
5	Arrivals in January, February and March were 320,000, 280,000 and 400,000. (a) Calculate the average monthly arrivals. (b) Calculate the seasonality index of March (index = monthly arrivals / average x 100).	Average = 333,333.3 arrivals; March index = 400,000 / 333,333.3 x 100 = 120.0, i.e. 20% above average.	4
6	A cruise terminal handled 48 ships in a year, each carrying 2,500 passengers on average; 85% went ashore and each spent HK$850 ashore. Calculate (a) total cruise passengers, (b) the number going ashore, (c) total spending ashore.	Passengers = 120,000; going ashore = 102,000; spending ashore = HK$86,700,000.	4
7	An air route has 42 flights a week, each with 220 seats, and an average load factor of 88%. (a) Calculate weekly	Weekly seats = 9,240; weekly passengers = 8,131.2; annual	4

	seats and weekly passengers. (b) Calculate annual passengers over 52 weeks.	passengers = 422,822.4.	
8	In 2024 there were 5.0 million visitor arrivals, 18% of them business travellers. In 2025 arrivals rose to 5.4 million with 15% business travellers. Calculate the change in the number of business travellers (in number and in percentage).	2024: 900,000 business travellers; 2025: 810,000; a fall of 90,000 (-10%).	4

Section C: Hotel Operations, Occupancy and Break-even (18 marks)

Each question is worth 4-5 marks; all amounts are in HK$.

#	Question	Answer	Marks
9	A hotel has 300 rooms, an average occupancy of 82% over 30 days and an ADR of HK$1,150. Calculate (a) room-nights sold, (b) total room revenue, (c) RevPAR.	Room-nights = 7,380; revenue = 7,380 x 1,150 = HK$8,487,000; RevPAR = 8,487,000 / 9,000 = HK$943.	5
10	A hotel has 180 rooms, fixed costs of HK$4,500,000 a month and variable cost of HK$320 per room-night sold. It sold 6,000 room-nights at HK$1,050. (a) Calculate total contribution. (b) Calculate the profit or loss for the month. (c) Calculate the break-even room-nights.	Revenue = HK$6,300,000; variable cost = HK$1,920,000; contribution = HK$4,380,000; profit = 4,380,000 - 4,500,000 = HK$-120,000 (a loss); contribution per room-night = 730, break-even = 4,500,000 / 730 = 6,164.4, i.e. about 6,165 room-nights.	5
11	A hotel has 45 room attendants who clean 5,400 room-nights in 30 days. (a) Calculate the average rooms cleaned per attendant per day. (b) If the number of rooms to clean rises by 20% with productivity unchanged, how many attendants are needed?	Rooms per attendant per day = 5,400 / 1,350 = 4.0; rooms to clean = 6,480; attendants needed = 6,480 / (4.0 x 30) = 54.	4
12	A hotel restaurant has monthly revenue of HK$2,800,000, food cost HK$840,000, labour cost 25% of revenue and other operating expenses 18%. (a) Calculate the food cost percentage. (b) Calculate the profit and profit margin.	Food cost = 30.0%; labour = HK$700,000, others = HK$504,000; profit = HK$756,000 (margin 27.0%).	4

Section D: Tourism Multiplier, Jobs and Leakage (17 marks)

Each question is worth 4-5 marks; state the multiplier formula you use.

#	Question	Answer	Marks
13	A destination receives a tourism injection of HK$600,000,000 with a marginal propensity to consume of 0.8. (a) Calculate the multiplier using k = 1 / (1 - mpc). (b) Calculate total income generated. (c) If leakage pulls mpc down to 0.6, how much less income is generated?	k = 1 / 0.2 = 5.0; total income = 600,000,000 x 5.0 = HK$3,000,000,000; with mpc = 0.6, k = 2.5 and income = HK$1,500,000,000, a fall of HK$1,500,000,000.	5
14	Tourism creates direct income of HK$250,000,000, indirect income of HK$125,000,000 and induced income of HK$75,000,000. (a) Calculate the total economic impact. (b) Calculate the tourism multiplier (total impact / direct income).	Total impact = HK$450,000,000; multiplier = 1.8.	4

15	Every HK$1,200,000 of tourism spending creates one direct job, and each direct job supports 0.6 indirect jobs. With tourism spending of HK$600,000,000, calculate (a) direct jobs, (b) indirect jobs, (c) total jobs.	Direct = 500; indirect = 300; total = 800 jobs.	4
16	Of every HK$1,000 a visitor spends, 35% goes on imported goods (leakage). (a) Calculate the amount retained in the local economy. (b) If the import share rises to 45%, how much less is retained (in amount and in percentage)?	Retained = HK$650; at 45% imports HK$550 is retained, a fall of HK$100 (15.4%).	4

Section E: Promotion Cost-Effectiveness and Source Markets (16 marks)

Each question is worth 4 marks; round to one decimal place where appropriate.

#	Question	Answer	Marks
17	A tourism board spends HK$180,000 on an online campaign that gets 150,000 impressions and 4,500 bookings. (a) Calculate the CPM. (b) Calculate the cost per booking. (c) Calculate the conversion rate.	CPM = HK$1,200; cost per booking = HK$40; conversion rate = 3.0%.	4
18	An agency sells a HK$11,730 tour package on 12% commission. (a) Calculate the commission. (b) Calculate the net amount received. (c) If the commission rate falls to 9%, how much less does the agency receive?	Commission = HK$1,407.6; net received = HK$10,322.4; at 9% commission the agency receives HK$10,674.3, i.e. HK$351.9 less.	4
19	A tourism board runs a trade familiarisation trip for 20 agents at HK$8,500 each. 35%% of the agents later bring 6 bookings each at HK$12,000 per booking. Calculate (a) the cost of the trip, (b) the revenue generated, (c) the return on investment (net gain / cost).	Cost = HK$170,000; active agents = 7; bookings = 42; revenue = HK$504,000; net gain = HK$334,000; ROI = 196.5%.	4
20	A survey of 2,000 visitors finds that 32% are repeat visitors. Repeat visitors spend HK$6,500 each on average and first-time visitors HK$8,200 each. (a) Calculate the number in each group. (b) Calculate total and average spending of the sample.	Repeat = 640, first-time = 1,360; total spending = HK$15,312,000; average = HK$7,656.	4

Section F: Carrying Capacity and Sustainable Tourism (16 marks)

Each question is worth 4 marks; state any assumptions.

#	Question	Answer	Marks
21	A hiking trail is 4.2 km long; management allows one visitor per 10 m, with 4 turns a day, 300 days a year. (a) Calculate the instantaneous carrying capacity. (b) Calculate annual visitor-days.	Instantaneous capacity = 420 visitors; annual = 420 x 4 x 300 = 504,000 visitor-days.	4
22	A resort has 250 rooms at 78% occupancy, using 380 litres per room-night sold. (a) Calculate rooms sold per day and daily water use. (b) If water-saving measures cut use by 15%, calculate the new daily use.	Rooms sold = 195; water use = 74,100 litres a day; after saving 15%, 62,985 litres a day.	4
23	A site receives 1,200 visitors a day, each producing 1.8 kg of waste, 62% of which is recycled or sorted. (a) Calculate total daily waste. (b) Calculate the waste sent to landfill.	Waste = 2,160.0 kg a day; recycled = 1,339.2 kg; to landfill = 820.8 kg a day.	4

24	A hotel pays HK$120,000 a year for eco-certification and then saves HK$45,000 on energy, HK$28,000 on water and HK$17,000 on waste handling each year, with savings growing 8% a year. (a) Calculate the net cost in year one. (b) State in which year the cost is recovered.	Annual saving = HK$90,000; year-one net cost = HK$30,000; year two saving = HK$97,200, cumulative HK$187,200 exceeds HK$120,000, so the cost is recovered during year two.	4