

© International Baccalaureate Organization 2022

All rights reserved. No part of this product may be reproduced in any form or by any electronic or mechanical means, including information storage and retrieval systems, without the prior written permission from the IB. Additionally, the license tied with this product prohibits use of any selected files or extracts from this product. Use by third parties, including but not limited to publishers, private teachers, tutoring or study services, preparatory schools, vendors operating curriculum mapping services or teacher resource digital platforms and app developers, whether fee-covered or not, is prohibited and is a criminal offense.

More information on how to request written permission in the form of a license can be obtained from <https://ibo.org/become-an-ib-school/ib-publishing/licensing/applying-for-a-license/>.

© Organisation du Baccalauréat International 2022

Tous droits réservés. Aucune partie de ce produit ne peut être reproduite sous quelque forme ni par quelque moyen que ce soit, électronique ou mécanique, y compris des systèmes de stockage et de récupération d'informations, sans l'autorisation écrite préalable de l'IB. De plus, la licence associée à ce produit interdit toute utilisation de tout fichier ou extrait sélectionné dans ce produit. L'utilisation par des tiers, y compris, sans toutefois s'y limiter, des éditeurs, des professeurs particuliers, des services de tutorat ou d'aide aux études, des établissements de préparation à l'enseignement supérieur, des fournisseurs de services de planification des programmes d'études, des gestionnaires de plateformes pédagogiques en ligne, et des développeurs d'applications, moyennant paiement ou non, est interdite et constitue une infraction pénale.

Pour plus d'informations sur la procédure à suivre pour obtenir une autorisation écrite sous la forme d'une licence, rendez-vous à l'adresse <https://ibo.org/become-an-ib-school/ib-publishing/licensing/applying-for-a-license/>.

© Organización del Bachillerato Internacional, 2022

Todos los derechos reservados. No se podrá reproducir ninguna parte de este producto de ninguna forma ni por ningún medio electrónico o mecánico, incluidos los sistemas de almacenamiento y recuperación de información, sin la previa autorización por escrito del IB. Además, la licencia vinculada a este producto prohíbe el uso de todo archivo o fragmento seleccionado de este producto. El uso por parte de terceros —lo que incluye, a título enunciativo, editoriales, profesores particulares, servicios de apoyo académico o ayuda para el estudio, colegios preparatorios, desarrolladores de aplicaciones y entidades que presten servicios de planificación curricular u ofrezcan recursos para docentes mediante plataformas digitales—, ya sea incluido en tasas o no, está prohibido y constituye un delito.

En este enlace encontrará más información sobre cómo solicitar una autorización por escrito en forma de licencia: <https://ibo.org/become-an-ib-school/ib-publishing/licensing/applying-for-a-license/>.

**Business management**  
**Higher level**  
**Paper 2**

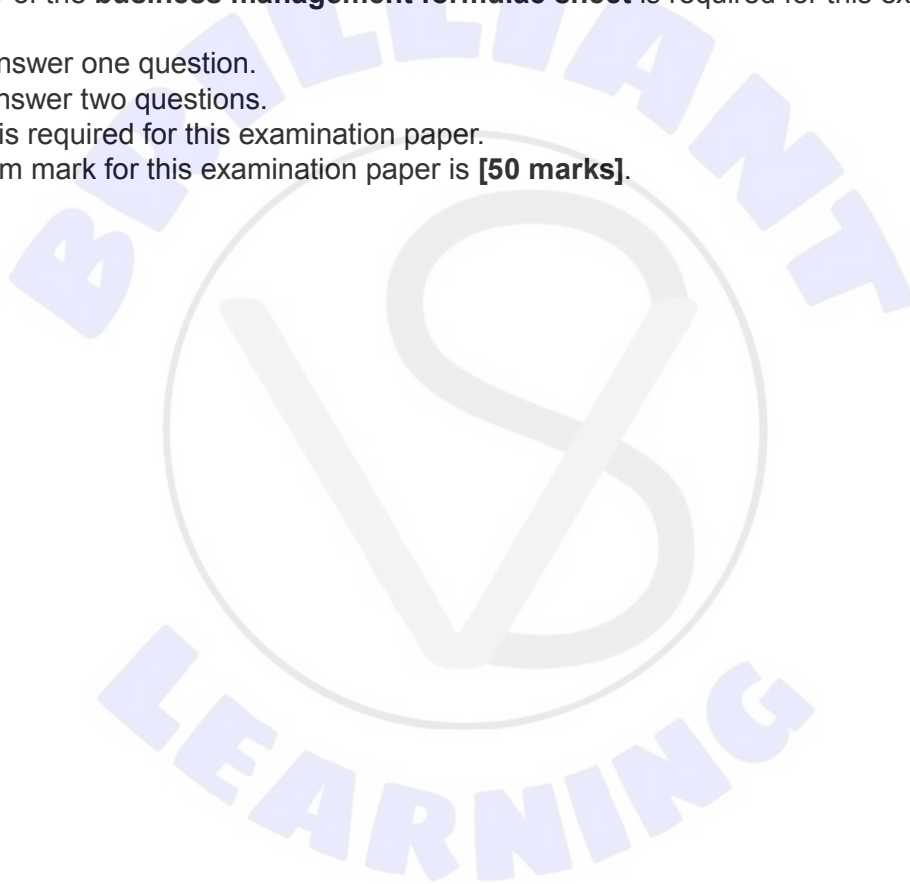
Tuesday 25 October 2022 (morning)

1 hour 45 minutes

---

**Instructions to candidates**

- Do not open this examination paper until instructed to do so.
- A clean copy of the **business management formulae sheet** is required for this examination paper.
- Section A: answer one question.
- Section B: answer two questions.
- A calculator is required for this examination paper.
- The maximum mark for this examination paper is **[50 marks]**.



## Section A

Answer **one** question from this section.

### 1. Solar Soccer Academy Ltd. (SSA)

*Solar Soccer Academy Ltd. (SSA)* is a private limited company set up five years ago by Stephen Murdock. It provides top-quality soccer (football) skills and technique coaching. So far, SSA has been a success, and Stephen is deciding whether to open another academy in a neighbouring city.

The cost of building a second academy is \$500 000. Stephen has produced forecasted financial information for the second academy’s first five years of operation (see **Table 1**).

**Table 1: Forecasted financial information for a second academy**

| Year | Cash inflow (\$) |
|------|------------------|
| 1    | 160 000          |
| 2    | 200 000          |
| 3    | 240 000          |
| 4    | 375 000          |
| 5    | 700 000          |

Stephen estimates cash outflow to be 25% of the total cash inflow in years 1, 2 and 3 and 20% of the total cash inflow in years 4 and 5.

- (a) State **two** features of a private limited company.
[2]
- (b) Using **Table 1** and other information provided, calculate for SSA’s second academy:
[2]
- (i) the payback period (*show all your working*);
[2]
- (ii) the average rate of return (ARR) for the first five years of operation (*show all your working*);
[2]
- (iii) the net present value (NPV) at a discount rate of 4% (see **Table 2**) (*show all your working*).
[2]

**Table 2: Discount rates**

| Year | Discount rate |
|------|---------------|
| 1    | 0.9615        |
| 2    | 0.9246        |
| 3    | 0.8890        |
| 4    | 0.8548        |
| 5    | 0.8219        |

- (c) Explain **one** disadvantage for SSA of **only** using the payback period method in making its decision to open a second academy.
[2]

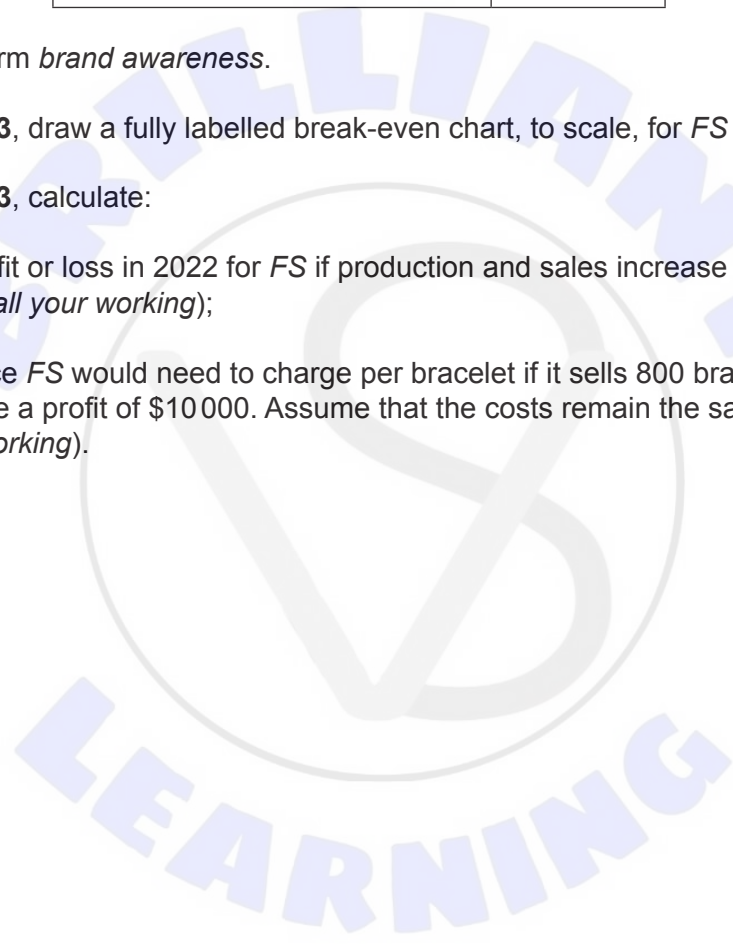
**2. Florian Stones (FS)**

*Florian Stones (FS)* sells handmade bracelets made from natural stones. *FS* enjoys strong brand awareness.

**Table 3: Forecasted figures for FS for the year ending 31 December 2022**

|                              |          |
|------------------------------|----------|
| Fixed costs                  | \$15 000 |
| Variable costs per bracelet  | \$40     |
| Price per bracelet           | \$70     |
| Number of bracelets produced | 800      |

- (a) Define the term *brand awareness*. [2]
- (b) Using **Table 3**, draw a fully labelled break-even chart, to scale, for *FS* for 2022. [4]
- (c) Using **Table 3**, calculate:
- (i) the profit or loss in 2022 for *FS* if production and sales increase to 1200 bracelets (*show all your working*); [2]
- (ii) the price *FS* would need to charge per bracelet if it sells 800 bracelets and wants to make a profit of \$10 000. Assume that the costs remain the same (*show all your working*). [2]



**Turn over**

## Section B

Answer **two** questions from this section.

### 3. Davidson Studios Ltd. (DS)

*Davidson Studios Ltd. (DS)* is a private limited company created in 2018 and equally owned by two sisters, Emma and Laura Davidson. Both recent graduates, they design and produce fantasy board games, which are sold to local retailers.

Emma specializes in game design and Laura is the operations manager. The design of a new game takes 12 months. *DS*'s first board game was a success and enabled *DS* to rent workspace and hire employees. The second game, *Held Captive*, was a massive commercial success.

*DS* had to move to larger premises and recruit more design, marketing and production staff. *DS*'s organizational culture empowers employees to solve problems and gives them the opportunity to manage tasks. Employees also enjoy modern office spaces, generous breaks and competitive salaries. Quality circles and job rotation are common. Labour turnover is low and employee morale is high.

As production increased, however, *DS* ran into problems. With more employees to pay and invoices due, *DS* had almost run out of working capital (see **Table 4**).

**Table 4: Selected financial ratios for DS**

| Year | Debtor days | Creditor days | Acid test (quick) ratio |
|------|-------------|---------------|-------------------------|
| 2019 | 73          | 27            | 1.32                    |
| 2020 | 115         | 36            | 0.92                    |
| 2021 | 157         | 49            | 0.61                    |

Two options are being considered to avoid further liquidity problems and continue *DS*'s rapid expansion:

- **Option 1:** Accept an offer from *Big Game Industries (BGI)*, the market leader, to purchase 51% of *DS*'s shares. *BGI* would keep the *DS* brand and install a chief executive officer (CEO). Emma and Laura would have reduced roles in *DS*.
- **Option 2:** Accept an offer from a venture capitalist to purchase 35% of shares. This would provide a cash injection sufficient for the next 12 months.

- (a) Define the term *organizational culture*. [2]
- (b) Using Herzberg's motivation theory, explain **two** reasons for *DS*'s high employee morale. [4]
- (c) Explain **two** reasons for the working capital problems at *DS*. [4]
- (d) Discuss whether *DS* should choose **Option 1** or **Option 2**. [10]

#### 4. Easy Ride Ltd. (ER)

*Easy Ride Ltd. (ER)* is a medium-sized private limited company that manufactures gasoline (petrol)-powered scooters that are sold worldwide. Customers think that *ER*'s scooters are good value for money. However, increased global competition in both the gasoline-powered and electric scooter markets, and a shift in customers' demands, has resulted in a significant drop in sales.



*ER* commissioned market research in the Middle East using focus groups. This research revealed that consumers:

- perceive competitors as medium-price/medium-quality providers
- have highly innovative products as their top priority
- want products and production methods to be environmentally friendly.

*ER*'s employees have expressed dissatisfaction with the use of flow production. *ER* is no longer profitable and is highly geared.

Given the pace of change in the scooter industry, *ER*'s management wants to react quickly and is considering two options for research and development.

##### **Option 1: Adaptive creativity**

*ER* would design and produce different models of electric scooters only. Lacking finance and expertise in the electric scooter industry, *ER* would subcontract the production of batteries to a well-known designer and producer of environmentally friendly batteries. Cellular production would be used for each scooter model. Employees would need training.

##### **Option 2: Innovative creativity**

*ER* would gain a new competitive advantage by developing cutting-edge gasoline-powered scooters. *ER* would create its own research and development department and recruit highly skilled and innovative product designers. It would reposition the scooters into the high-price/high-quality market, and flow production would be used. This option would be more expensive than **Option 1** and would take longer to implement.

Loan capital from a bank with low interest rates, aimed at helping small to medium enterprises (SMEs), is being considered for financing either option.

- (a) State **two** characteristics of flow production. [2]
- (b) Explain **one** advantage **and one** disadvantage for *ER* of commissioning market research using focus groups. [4]
- (c) Explain **one** advantage **and one** disadvantage for *ER* of raising finance through loan capital from a bank. [4]
- (d) Recommend whether *ER* should implement **Option 1** or **Option 2** as a research and development strategy, given the pace of change in the scooter industry. [10]

Turn over

**5. Musical Musings (MM)**

*Musical Musings (MM)* manufactures musical keyboards, using batch production to produce a limited range.

*MM*'s products are designed for use in schools and homes. *MM* sells directly to schools, and, for the home market, sells through shops specializing in technology. *MM*'s costs are kept low by:

- limiting its product range
- focusing on a small target market, which enables *MM* to limit the features on its keyboards and keep the appearance functional.



*MM* provides free online “Teach yourself to play the keyboard” training courses for all customers.

In 2021, *MM* employed an average of 50 people. During that year, however, 12 people left the company. Their reasons for leaving are shown in **Table 5**.

**Table 5: Stated reasons for employees leaving *MM* in 2021**

| Stated reason                   | Number of employees leaving <i>MM</i> |
|---------------------------------|---------------------------------------|
| Retirement                      | 1                                     |
| Offered a more interesting job  | 5                                     |
| Higher pay at a competitor      | 3                                     |
| Lack of promotion opportunities | 2                                     |
| Family reasons                  | 1                                     |

*MM*'s labour turnover rate for 2021 was 24%. The manufacturing industry average was 15%.

In 2021, *MM*'s sales declined. *MM* is now considering targeting the niche market of professional musicians. *MM* would change its product design by adding a range of different sound features and improving the appearance of its keyboards. To achieve this change, *MM* would eventually stop supplying its existing market. Professional musicians would pay a higher negotiated price for improved keyboards made to their individual specifications. Changing its production process to job/customized production would be expensive for *MM*, however, and it would have to invest in a new marketing strategy.

- (a) State **two** characteristics of a niche market. [2]
- (b) Explain **two** methods that *MM* could use to reduce its labour turnover. [4]
- (c) Explain **two** ways in which *MM*'s profits could be affected by changing from batch production to job/customized production. [4]
- (d) Discuss the impact on *MM*'s marketing mix if *MM* changes its target market to professional musicians. [10]



**Disclaimer:**

Content used in IB assessments is taken from authentic, third-party sources. The views expressed within them belong to their individual authors and/or publishers and do not necessarily reflect the views of the IB.

**References:**

4. **(image)** Pixabay, 2016. *Red and Black Moped Scooter Beside Green Grass*. [image online] Available at: <https://www.pexels.com/photo/red-and-black-moped-scooter-beside-green-grass-159192/> [Accessed 2 December 2021].
5. **(image)** Chang, Y. Y., 2021. [*musical keyboard*]. [image online] Available at: <https://unsplash.com/photos/VnEIGgL6c-k> [Accessed 2 December 2021].

**All other texts, graphics and illustrations © International Baccalaureate Organization 2022**