



ATAR course examination, 2021

COMPUTER SCIENCE

SOURCE BOOKLET

Refer to the information that follows to answer Questions in Section Two.

When responding to an emergency, it is critical to have the right people with the right training on the scene as soon as possible. Australia is fortunate in having paid staff in emergency management roles, but a significant amount of work is done by regular people who are willing to train to serve their local communities. These volunteers often play a key support role in times of disaster.

EmergWA is a new emergency and incident management service for volunteers. The service allows integrated management of incidents and disasters for teams of volunteers alongside full-time staff to respond to events such as:

- bushfires
- floods
- storms and severe weather
- sea rescues
- traffic accidents and incidents
- first aid incidents in the community.

Refer to the information below to complete Question 25.

EmergWA includes personal details, locations and specific qualifications of these skilled volunteers. Volunteers can be notified of an incident based on location and training and can quickly choose to respond, cutting down time required to coordinate different services.

- New volunteers to the system register with EmergWA and record their training details.
- All volunteers are given an ID number issued by the system.
- All training qualifications listed by volunteers (such as first aid, heavy machinery, hazmat response and fire training) are sent to and verified with the registered training organisation (RTO).
- As volunteers undergo new training, their new qualifications can be updated centrally in the qualifications database. These are also verified with the relevant RTO.
- When an incident is reported, an incident controller is appointed by the relevant authority (for example, if the event is a bushfire, the Department of Fire and Emergency Services is the authority). The controller requests an alert to be broadcast through EmergWA.
- The appropriate volunteers (by training, and then by location) are then sent a notification from EmergWA with a brief overview of the incident.
- The volunteer then chooses 'Responding' or 'Not Responding'. Their actions are sent to the Incident Response datastore and to the incident controller.
- The incident controller is sent a list and contact details of the volunteers responding to the incident.
- The responding volunteers are then sent detailed information regarding the incident, along with their specific tasks and roles according to the emergency management plan.

Use the information below to answer Question 26.

The Database Dashboard for volunteers is shown below.

Assume the following:

- an Event has many Volunteers and Jobs
- a Volunteer can do many Events and many different Jobs, even at the same event
- Volunteers can complete many Training courses
- Training courses are available to all Volunteers.

Volunteer Personal Site

Record Training	Your Information	Volunteer Jobs	Log Hours
-----------------	------------------	----------------	-----------

Jack Smith

j.smith@gmat.com.au

0418 937 876

Skills

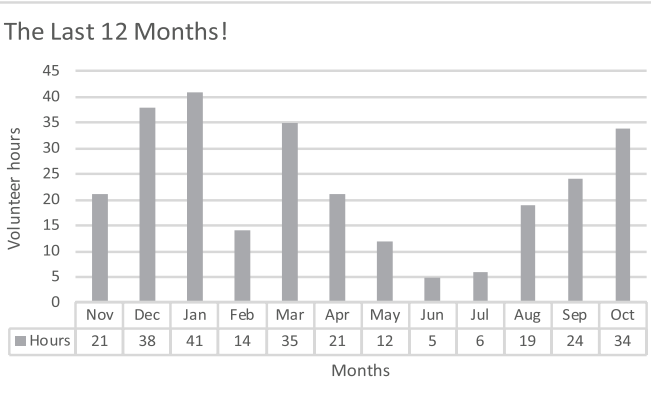
First aider
Working at Heights
Forklift
Fire fighter

Update

Recent Volunteer History

Date	Event	Job	Hours
01/11/2021	201	First aid	5
09/11/2021	209	Traffic controller	3
16/12/2021	213	Fire fighter	6
18/12/2021	216	Fire fighter	4
18/11/2021	216	First aid	3
21/11/2021	219	First aid	5

The Last 12 Months!



Month	Hours
Nov	21
Dec	38
Jan	41
Feb	14
Mar	35
Apr	21
May	12
Jun	5
Jul	6
Aug	19
Sep	24
Oct	34

Scheduled Volunteer Shifts

Date	Time	Event	Job	Details	Cancel
23/11/2021	10.00 am	23	First aid	✓	X
26/11/2021	08.00 pm	32	First aid	✓	X
31/12/2021	04.00 pm	41	First aid	✓	X
31/12/2021	11.00 am	41	Traffic controller	✓	X
01/01/2022	08.00 pm	42	First aid	✓	X

Emergency volunteer shifts may be added. Click details to accept or cancel.

NEXT

See next page

Use the information below to answer Question 28.

EmergWA use a variety of vehicles including 4-wheel drives, caravans, heavy rigid trucks and trailers. They are required to license each of the vehicles for a period of 12 months, six months or three months.

The licence fee is calculated based on the weight and type of the vehicle. The classifications and rate per kilogram are shown in the table below:

Code	Description	Rate/kg
P	Passenger	\$23.64
C	Caravan	\$5.91
T	Double axel vehicle up to 8000 kg	\$11.82

Other fees included in the registration are:

- Prescribed fee of \$6.60 for either six or 12 month registrations or \$3.30 for three month registrations
- Recording fee of \$10.30
- Motor Injury Insurance (MII) of \$444.24 for passenger vehicles, or \$413.35 for commercial vehicles (Note: Trucks are classed as commercial vehicles)

For example, if you have a passenger vehicle that weighs 1320 kg, the licence fee for 12 months would be calculated as follows:

1320 x 23.64	\$312.40
MII	\$444.24
Prescribed fee	\$6.60
Recording fee	\$10.30
Total Payable	\$773.54

See next page

Use the information below to answer Question 28.

The following algorithms have already been written for the program:

```
Module CalcLicenceFee(Weight, Rate, FeePayable)
    FeePayable ← Weight * Rate
End Module
```

```
Module CalcMII(Type, InsurancePayable)
If Type = "P" or Type = "C" then
    InsurancePayable ← 444.24
Else
    InsurancePayable ← 413.35
End If
End Module
```

```
ModuleGetPrescribedFee(RegistrationPeriod, PrescribedFee)
    If RegistrationPeriod = 6 or RegistrationPeriod = 12 then
        PrescribedFee ← 6.60
    Else
        PrescribedFee ← 3.30
    End If
End Module
```

```
Module GetType(Type)
    // Code to be completed
End Module
```

```
Module GetRate(Type, Rate)
    // Code to be completed
End Module
```

This page has been left blank intentionally

This page has been left blank intentionally

This document – apart from any third party copyright material contained in it – may be freely copied, or communicated on an intranet, for non-commercial purposes in educational institutions, provided that it is not changed and that the School Curriculum and Standards Authority is acknowledged as the copyright owner, and that the Authority's moral rights are not infringed.

Copying or communication for any other purpose can be done only within the terms of the *Copyright Act 1968* or with prior written permission of the School Curriculum and Standards Authority. Copying or communication of any third party copyright material can be done only within the terms of the *Copyright Act 1968* or with permission of the copyright owners.

Any content in this document that has been derived from the Australian Curriculum may be used under the terms of the Creative Commons [Attribution 4.0 International \(CC BY\)](https://creativecommons.org/licenses/by/4.0/) licence.

An *Acknowledgements variation* document is available on the Authority website.

*Published by the School Curriculum and Standards Authority of Western Australia
303 Sevenoaks Street
CANNINGTON WA 6107*